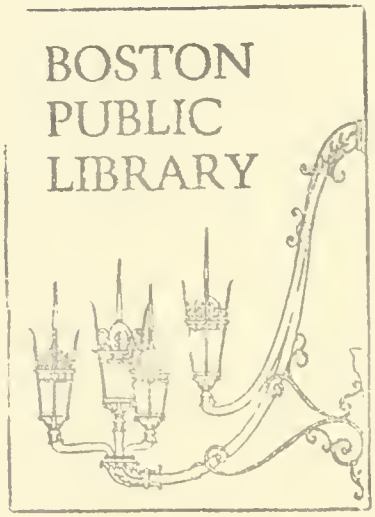
GOVDOC
BRA
1154
Final


BOSTON
PUBLIC
LIBRARY

BRA
1154
Final

FINAL PROJECT AND ENVIRONMENTAL IMPACT REPORT

BOSTON CROSSING

BOSTON, MASSACHUSETTS

DECEMBER, 1989

BOSTON
PUBLIC
LIBRARY

SUBMITTED BY:

CAMPEAU MASSACHUSETTS, INC.
ONE AVENUE DE LAFAYETTE
BOSTON, MASSACHUSETTS 02111

FINAL PROJECT AND ENVIRONMENTAL IMPACT REPORT

FOR

BOSTON CROSSING
BOSTON, MASSACHUSETTS

EOEA NO. 6929

DECEMBER 1989

Submitted by:

CAMPEAU MASSACHUSETTS, INC.
One Avenue de Lafayette
Boston, Massachusetts 02111

Prepared by:

HMM ASSOCIATES, INC.
196 Baker Avenue
Concord, Massachusetts 01742
(508)371-4000

In association with:

Skidmore, Owings & Merrill
Palmer & Dodge
A Joint Venture of Tishman Construction and Beacon Construction
Bruce Campbell & Associates
Howard/Stein-Hudson Associates, Inc.
Parsons Brinckerhoff Quade & Douglas, Inc.
Haley & Aldrich
Technology Integration and Development Group, Inc.
RTKL Associates, Inc.

2686/ENV-1061

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Page

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

LIST OF FIGURES (Continued)

LIST OF FIGURES (Continued)

BOSTON CROSSING FPIR/FEIR

DISTRIBUTION LIST

Secretary of Environmental Affairs
100 Cambridge Street - 20th Floor
Boston, MA 02202
ATTN: MEPA Unit - File #6929

Department of Environmental Protection
One Winter Street
Boston, MA 02108

Department of Environmental Protection
Division of Water Pollution Control
One Winter Street
Boston, MA 02108
ATTN: Ms. Judy Perry

Department of Environmental Protection
Division of Air Quality Control
One Winter Street
Boston, MA 02108
ATTN: Ms. Christine Kirby

Department of Environmental Protection
Regional Environmental Engineer
Metropolitan Boston/Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801

Department of Environmental Protection
Division of Water Pollution Control
Metropolitan Boston/Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801
ATTN: Rich Chertian, Section Chief

Massachusetts Bay Transportation Authority
Construction Directorate
Ten Park Plaza
Boston, MA 02116
ATTN: Ms. Jane Chmielinski

DISTRIBUTION LIST (Continued)

Katina Belezos
Massachusetts Water Resources Authority
Engineering Division
Charlestown Navy Yard
100 First Avenue
Charlestown, MA 02129

Mr. Thomas P. Glynn
General Manager
Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, MA 02116

Metropolitan Area Planning Council
60 Temple Place
Boston, MA 02111
ATTN: David C. Soule

Boston Air Pollution Control Commission
Environment Department - Room 805
One City Hall Square
Boston, MA 02201
ATTN: Denise Breiteneicher

Environment Department
Boston Conservation Commission
Boston City Hall - Room 805
Boston, MA 02201
ATTN: Ms. Lorraine Downey

Federal Aviation Administration
Airway Facilities Division
12 New England Executive Park
Burlington, MA 01803
ANE-400
ATTN: Mr. John C. Silva

Boston Redevelopment Authority
One City Hall Plaza
Boston, MA 02201
ATTN: Ms. Pamela Wessling

Public Facilities Commission
26 Court Street, 6th Floor
Boston, MA 02108
ATTN: Lisa Chapnick

DISTRIBUTION LIST (Continued)

Public Improvements Commission
One City Hall Square
Boston, MA 02201
ATTN: Joyce Burrell

Inspectional Services Department
Commissioner Thomas McNichols
Building Division
1010 Massachusetts Avenue
Boston, MA 02218

Department of Environmental Protection
Division of Air Quality Control
Metropolitan Boston/Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801

Executive Office of Communities and Development
State Clearinghouse
100 Cambridge Street, 20th Floor
Boston, MA 02202

Massachusetts Historical Commission
80 Boylston Street
Boston, MA 02116
ATTN: Valerie Talmage

Massachusetts Water Resources Authority
100 First Avenue
Charlestown Navy Yard
Charleston, MA 02129
Attn: Richard Thibedeau, Director

Massachusetts Bay Transportation Authority
10 Park Plaza, 6th Floor
Boston, MA 02116-3966

Department of Public Works
10 Park Plaza, Room 4260
Boston, MA 02202

DISTRIBUTION LIST (Continued)

Libby Blank
Project Manager
Boston Water & Sewer Commission
425 Summer Street
Boston, MA 02210

Boston Water & Sewer Commission
425 Summer Street
Boston, MA 02210
ATTN: Mr. John P. Sullivan, Jr.

CTPS
10 Park Plaza, Suite 2150
Boston, MA 02116
ATTN: Michael Costa

City of Boston - Transportation Department
Boston City Hall
Boston, MA 02201
ATTN: Mr. Andrew McClurg

Robert H. Johnson, Department Chief
Massachusetts Department of Public Works
Ten Park Plaza - 3rd Floor
Boston, MA 02116
ATTN: Mr. Frank Bracaglia

Public Safety Council
c/o Secretary Charles V. Barry
Executive Office of Public Safety
One Ashburton Place - Room 2133
Boston, MA 02108

Massachusetts Architectural Access Board
One Ashburton Place - Room 1310
Boston, MA 02108

Metropolitan District Commission Planning Office
20 Somerset Street
Boston, MA 02108
ATTN: Ms. Julia O'Brien

Executive Office of Transportation and Construction
Ten Park Plaza - Room 3510
Boston, MA 02116-3969
ATTN: Mr. Frederick P. Salvucci

DISTRIBUTION LIST (Continued)

Ms. Carol Thomas
Chairman
Tremont-on-the-Common
151 Tremont Street
Boston, MA 02111

Mr. Andrew Hamilton
Conservation Law Foundation of New England, Inc.
3 Joy Street
Boston, MA 02108-1497

Ms. Elizabeth S. Padjen
The Boston Society of Architects
305 Newbury Street
Boston, MA 02115

J. Miller Blew
Bulfinch Development Corporation
105 Chauncy Street
Boston, MA 02111

Ms. Valerie Burns
Boston Greenspace Alliance, Inc.
44 Bromfield Street - #207
Boston, MA 02108

Mr. Mark Primack
Boston Greenspace Alliance, Inc.
44 Bromfield Street - #207
Boston, MA 02108

BOSTON BC CROSSING

I. EXECUTIVE SUMMARY

I. EXECUTIVE SUMMARY

1.0 INTRODUCTION

The proposed Boston Crossing project is subject to development review pursuant to both Article 31 of the Zoning Code of the City of Boston and the regulations promulgated under the Massachusetts Environmental Policy Act (MEPA).

On January 15, 1989, developers of the proposed Boston Crossing project submitted an Environmental Notification Form (ENF) to the Executive Office of Environmental Affairs (EOEA); a Certificate of the Secretary of Environmental Affairs was issued on February 26, 1988. Subsequently, the proposed project was modified; a Notice of Project Change was submitted to the EOEA in October 1988. Also in October 1988, a Project Notification Form (PNF) was submitted to the Boston Redevelopment Authority (BRA). On April 11, 1989, the BRA issued a Scoping Determination for the Draft Project Impact Report (DPIR) in response to the PNF. The scope required a description of the project, general information, a transportation component, an urban design component, an historic resources component, an infrastructure systems component, and an environmental protection component including an analysis of potential impacts in each of the following areas:

- Wind
- Shadow
- Daylight
- Air Quality
- Solid and Hazardous Wastes
- Noise
- Geotechnical
- Construction
- Rodent Control

The DPIR was submitted to the BRA on May 12, 1989. The DPIR also constituted an application for Development Plan approval pursuant to Section 38-10 of the Boston Zoning Code and an application for Development Impact Project Plan approval pursuant to Article 26A of the Boston Zoning Code.

The Secretary of Environmental Affairs responded to the Notice of Project Change on December 30, 1988. On May 15, 1989, the Secretary adopted the BRA Scoping Determination as the scoping for the Draft Environmental Impact Report (DEIR) and required additional information and modifications. The additions included in the DEIR Scope concerned the size of the proposed project, the impacts on MBTA facilities which result from both increased ridership and construction of a below-grade garage adjacent to the MBTA facilities, the Boston Parking Freeze Bank, and sewer and water issues as identified by the Boston Water and Sewer Commission.

On July 31, 1989, the DEIR was submitted to the Executive Office of Environmental Affairs. A Certificate of the Secretary of Environmental Affairs on the Draft Environmental Impact Report was issued September 15, 1989. The BRA issued a Preliminary Adequacy Determination (PAD) on the Draft Project Impact Report on September 21, 1989.

This FPIR/FEIR responds to the comments included in the PAD, the MEPA Certificate, and attached comment letters.

2.0 PROJECT SUMMARY

2.1 Name of Project Proponent

The name of the project proponent is Campeau Massachusetts, Inc.

2.2 State Identification Number

The EOEA number assigned to this project is #6929.

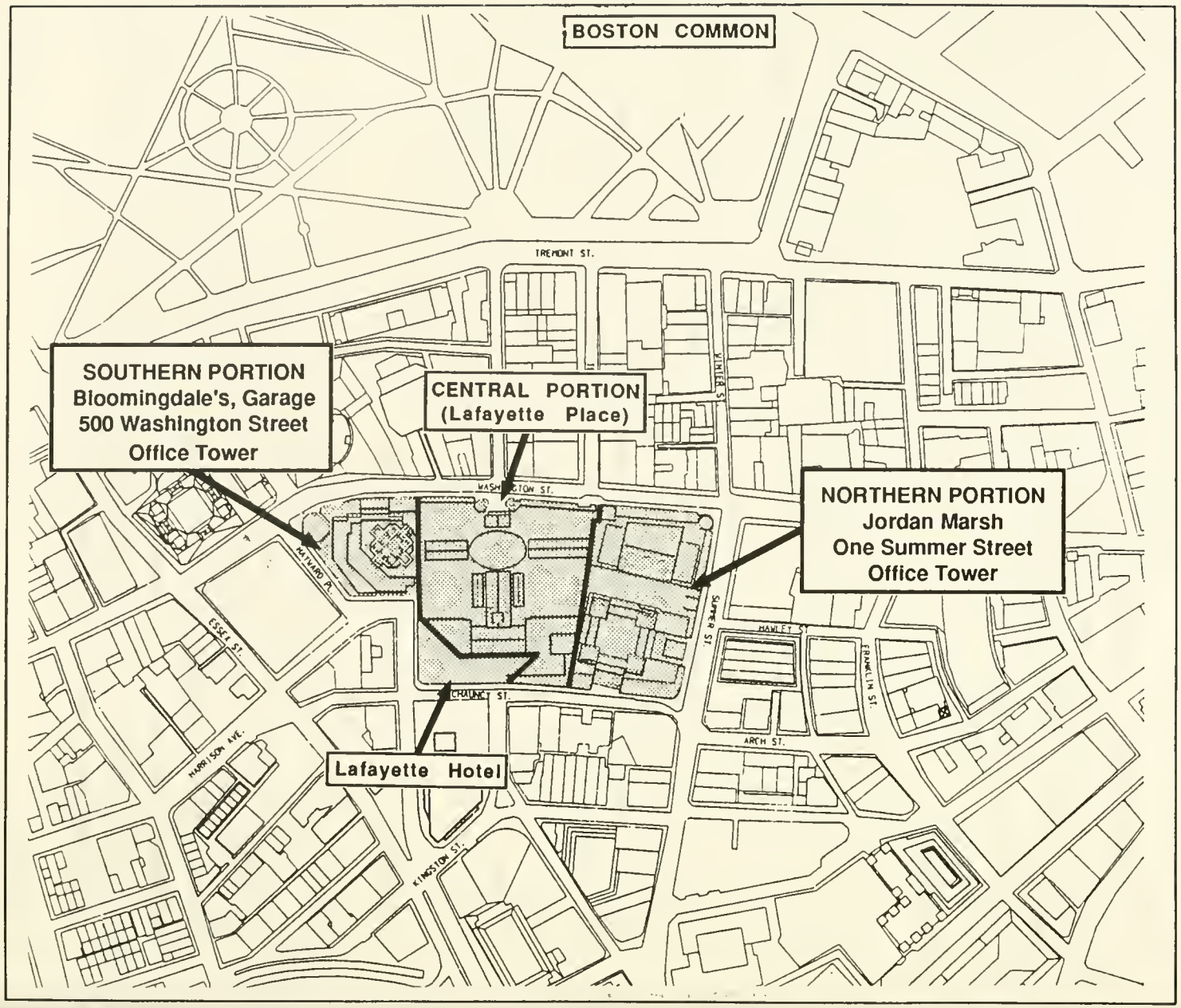
2.3 Project Description

The Boston Crossing project proposed by Campeau Massachusetts, Inc. is located in the Midtown Cultural District of Boston. The project site is bounded by Washington Street, Summer Street, Chauncy Street, Avenue de Lafayette, Harrison Avenue Extension, and Hayward Place. Current uses on the site include Jordan Marsh Department Store, Lafayette Place retail center, Lafayette Hotel, an underground parking garage, and a surface parking lot. The proposal for the Boston Crossing site includes a rebuilt 410,000 square foot Jordan Marsh store that will tie into a new five-level specialty retail mall

where the Lafayette Place retail center is now located. A 854,775 square foot, 475-foot tall office tower, One Summer Street, will rise above the Jordan Marsh store at the corner of Summer and Chauncy Streets. A street-level entrance on Summer Street will provide access to the tower. A new, two-story 20,000 square foot retail component will be located on the corner of Summer and Chauncy Streets. The five-level, 700,000 square foot specialty retail center will connect Jordan Marsh with Bloomingdale's. It will provide active retail frontage along Washington Street, including numerous entries to individual stores.

Bloomingdale's will occupy 250,000 square feet on the south end of the site, in the location of the existing surface parking lot and a discontinued portion of Avenue de Lafayette. The building will be approximately 405 feet tall to the top of the last occupiable floor with the department store on the first five floors and an office tower above. Figure I-1 is a project vicinity plan and shows the proposed areas of development on the Boston Crossing site.

Since the submission of the DPIR and DEIR, adjustments were made to the massing and design of the proposed Boston Crossing project to mitigate the shadow impacts on the Boston Common, to increase the distance between the South Tower (500 Washington Street) and the proposed Commonwealth Center project on the west side of Washington Street, and to decrease the perceived width of the South Tower. Changes included shifting three stories from the South Tower component to the North Tower (One Summer Street) component, reducing the floorplates of the South Tower, and minor program changes. Consistent with these mitigation measures, the additional analyses requested for the wind and shadow sections as well as the Urban Design Component, reflect the changes in massing. Along with the changes in massing came slight changes in the development program. The additional information requested for the Infrastructure Systems Component reflects the amended development program. Because the amended program includes cinema space not included in the the DPIR and DEIR program, Saturday traffic conditions are expected to be slightly worse than those described in the DPIR and DEIR. The Transportation Component, therefore, includes revised analyses for Saturday conditions. Other traffic conditions, however, are expected to remain approximately the same or to improve slightly from those described in the DPIR and DEIR. While the office space has been increased by 1,000 square feet, the on-site childcare space has been decreased by 2,500 square feet and the athletic club space has been decreased by 15,000 square feet. The FPIR/FEIR, therefore, does not include revised traffic analyses, except where new information was specifically requested. The additional analyses requested for the Transportation Component of the FPIR/FEIR reflect the revised program.



BOSTON CROSSING

FIGURE I-1
Project Vicinity Plan

0 175 350
Scale: feet

HMM ASSOCIATES, INC.

3.0 SUMMARY OF IMPACTS

The following sections summarize the potential benefits and impacts of the proposed Boston Crossing project as were also discussed in the DPIR and DEIR.

3.1 Public Benefits

The developer of the Boston Crossing project has proposed an extensive public benefits package including a wide variety of innovative programs. The following is a brief list of a few of the public benefits proposed:

- 12,000 square feet of child care space at least 4,000 square feet of which will be on-site;

- Approximately $13,340,000 contribution to the creation of 250 housing units in Chinatown, two-thirds of which will be targeted towards low and moderate income residents of Chinatown, and a community center;

- $2,670,000 in jobs linkage used primarily for the creation of a comprehensive job training program that complements the needs of the project as well as those of nearby communities. Proposed is an English as a Second Language (ESL) program, pre-apprentice construction training programs, and the establishment of a Retail Training Academy;

- The proposed development of two theatres in a small ladder-block building in the Midtown Cultural District located at 26 West Street;

- A Neighborhood Business Opportunity Plan;

- Improved egress from the Chinatown MBTA station near the corner of Hayward Place and Washington Street;

- An expanded parking facility serving Chinatown residents and Midtown patrons;

- o The establishment of a Midtown Developers Transportation Management Association to improve vehicular and pedestrian traffic in the area;
- o The creation of 3,030 construction jobs;
- o The creation of 11,000 permanent jobs;
- o Real estate taxes to the City approacing $10 million annually;
- o Sales taxes to the State surpassing $20 million annually;
- o Traffic mitigation; and
- o Infrastructure improvements.

3.2 Transportation

The transportation analyses performed in the FPIR/FEIR incorporate all comments and concerns raised by the BTD, BRA and others through the MEPA process. The new analyses done in this report reflect the revised building program. During the AM and PM peak hours the new program will generate less trips so no new analyses were performed at intersections with the existing roadway network. Only intersections that were negatively impacted (i.e., higher traffic volumes) were reanalyzed with the revised roadway network. The higher traffic volumes are due to higher traffic assignments of existing and future traffic volumes or a two-way Essex Street. Two additional intersections - Kneeland Street/Surface Artery and Summer Street/Lincoln Street/Bedford Street were analyzed for all conditions.

The proposed Boston Crossing project is expected to generate 8,390 vehicle trips, 20,964 transit trips and 12,098 walk/other trips on an average weekday. The project will generate 705 vehicular trips (585 in and 120 out) during the AM peak, 976 vehicular trips (303 in and 673 out) in the PM peak and 739 vehicular trips (370 in and 369 out) during the Saturday peak.

Twenty-four intersections were subjected to capacity (level of service - LOS) analyses for existing, future (1995) No-Build and Build conditions. Capacity analyses were performed for three peak periods and two roadway alternatives. Twelve intersections were found to operate at poor levels of service for the future No-Build and Build

conditions. Additional traffic due to Boston Crossing will have impacts at a number of study area intersections, however, with mitigation levels of service will be improved and No Build levels of service will be achieved. The mitigation measures presented throughout this FPIR/FEIR are consistent with mitigation recommended by other major downtown projects (Commonwealth Center and One Lincoln Street).

The project has an ideal location with respect to public transportation. Three of the four (Green, Red, and Orange) MBTA subway and trolley lines can be reached directly from the project. The Blue Line can be accessed by either a one stop ride on the Orange line or short walk to State Street Station.

Express bus stops are also located within two blocks on Otis Street. South Station is located one stop away via the Red line or about three tenths of a mile (1,600 feet) from the site by foot. South Station provides access to commuter rail services south and west of Boston, express and private bus services, and AMTRAK.

Public transportation capacities and ridership for existing, future No-Build and Build conditions were analyzed. The project will have some impacts on the transit system, but they are not severe. Improvements being considered by the MBTA include platform lengthening and track and signal improvements on the subway lines, the reconstruction of South Station as a multimodal transportation center, and the rebuilding of North Station to enhance rail platform capacity. These changes will improve transit to and from Boston. Other mitigation, such as alternate work schedules will spread demand over a longer period, alleviating "crush loads".

Pedestrian volumes in the study area will increase due to other development occurring downtown along with Boston Crossing. The configuration of the Boston Crossing project will provide pedestrian traffic another east-west route between Washington Street and Chauncy Street, thus easing pedestrian congestion in Downtown Crossing during peak periods. There will also be north-south routes provided during peak pedestrian travel times.

The proposed Boston Crossing project will provide an additional 875 parking spaces. The conservative analysis indicates that the parking demand will exceed the supply. The shortage predicted comes from a combination of conservative factors used in determining trip generation and includes: low vehicle occupancy rates (1.6 versus 1.8 or 1.9 persons per vehicle for other recent studies done in downtown), relatively high vehicle usage rate (30 percent of all trips due to automobiles) and low parking turnover rates. The percent arriving at the site by automobile will be lower due to the predicted shortage of parking.

The report also outlines mitigation measures committed to by the Boston Crossing proponent to reduce automobile demand to and from the site with the following reduction strategies.

- o Encourage public transportation use by providing convenient access to MBTA subway stations.
- o Encourage public transportation use by providing on-site MBTA pass sales.
- o Promote car-pooling and van-pooling by tenants.
- o Provide parking management to reduce peak hour trips.
- o Promote alternative work schedules.
- o Provide docks for all delivery vehicles avoiding on-street loading and unloading.
- o Appointment of a transportation coordinator to monitor all traffic (pedestrian, transit and vehicular) due to the project.
- o Create the Midtown Developers Transportation Management Association to help to implement these mitigation measures.

3.3 Wind

Pedestrian level wind conditions were assessed using both qualitative and quantitative analysis methods. The qualitative analysis involved smoke visualization and erosion testing to characterize the general flow in the project area and define locations for the quantitative assessment. The quantitative analysis consisted of measuring wind velocity at 47 key locations near the proposed project site for the No-Build conditions (1995) and the Build conditions.

The general windiness of the site was slightly lower for the proposed project than for the No-Build condition. The Summer Street boundary experienced the greatest relative increase in wind speeds from the proposed project, but no points approached the 31 mph guidelines. Windiness in most areas, however, was generally not affected adversely by the proposed project.

The revised analysis in the FPIR/FEIR conducted to address the Preliminary Adequacy Determination reflected the amended design for the proposed Boston Crossing project and a revised design for the proposed Commonwealth Center project.

The seasonal analysis of the proposed Boston Crossing project, as analyzed for the DPIR and DEIR design and for the amended design, show that the most probable high-speed winds will occur during the fall and winter months. The design tested in the DPIR and DEIR recorded three locations on the annual basis and seven locations on the seasonal basis, exceeding the BRA's 31 miles per hour (mph) one percent gust velocity guidelines. With the project's amended design, wind levels have been effectively mitigated. As a result of the new design, annual wind levels no longer exceed the BRA's 31 mph guideline, while the guideline is barely exceeded twice on a seasonal basis.

The amended design of Boston Crossing and the redesign of the Commonwealth Center project have resulted in a more comfortable wind environment.

3.4 Shadow

The shadow diagrams in the DPIR and DEIR indicate that in the areas of primary concern, the proposed project adds new shadow beyond that cast by the as-of-right alternative to a section of the Washington Street sidewalk in front of Bloomingdale's at noon on March 21; and to the Boston Common in the early morning hours on October 21, November 21, and December 21. In the midday shopping hour(s) on March 21, September 21, and October 21, the analysis shows the proposed project design actually results in more sunlight at the heart of Downtown Crossing than the as-of-right development scheme. Outside the areas of primary concern, the proposed project adds new shadow along Temple Street in the early morning on March 21.

As described earlier, the design of the proposed Boston Crossing project was amended to minimize shadow impacts on Boston Common. Through the adoption of a Resolution on June 29, 1989 regarding the proposed project, the BRA found that the project complied with the shadow criteria contained in Section 38-16.1 (the Midtown Cultural District Zoning). The Resolution required that the FPIR/FEIR contain documentation exhibiting that the area of the Boston Common shaded beyond the two-hour limit described in section 38-16.1 of the Boston Zoning Code not exceed one acre for the class of projects described in Section 38-16.1.

As a result of design modifications, the proposed Boston Crossing project, together with the proposed Commonwealth Center project conform to the shadow criteria set forth in Section 38-16.1 of the Boston Zoning Code.

3.5 Daylight

The daylight analysis in the DPIR and DEIR indicates that the weighted average daylight obstruction resulting from the proposed Boston Crossing project increases by about 13 percent over the existing conditions. On the streets most traveled by pedestrians to the northwest and northeast, obstruction will increase 10 to 15 percent. The proposed alternative results in slightly less daylight obstruction than the as-of-right alternative. The proposed building will result in daylight obstruction values typical of the average of other downtown areas and should not infringe on the pedestrian nature of Summer Street or the Downtown Crossing area.

3.6 Solid and Hazardous Wastes

Three groundwater samples were taken from existing groundwater observation wells on March 17, 1989. The samples were obtained from wells installed in the Bloomingdale's parcel in 1988, and submitted for chemical analyses for volatile organic compounds and total petroleum hydrocarbons. Volatile organic compounds above the laboratory method detection limits were not detected. Low concentrations of total petroleum hydrocarbons were detected in all three groundwater samples, but were below the allowable concentration permitted to be discharged into a Class 1 drinking water aquifer under current Massachusetts Department of Environmental Quality Engineering regulations.

In response to the Preliminary Adequacy Determination, a subsurface exploration program was conducted at the site from mid-April through June 1989. In summary, the type of compounds detected at the site are generally consistent with the types and concentrations of compounds found in soil and groundwater samples collected from urban sites. Based on the chemical analyses and explorations completed to date, the concentrations of the compounds detected at the site do not constitute a present or potential threat to human health, safety or welfare, or to the environment if retained at the site.

Construction and solid waste generated by the proposed project will be disposed of in accordance with applicable regulations. In addition, the proponent is planning to implement a waste recycling program for the proposed Boston Crossing project similar to the program already in existence at the Jordan Marsh Department Store. Boston Crossing will participate in waste reduction and waste recycling programs operating in the Boston area when the project opens.

3.7 Noise

In order to assess the potential noise impacts of the proposed project, a noise monitoring program was conducted at five locations along the perimeter of the project area. The data from the noise survey indicates that the noise levels along the perimeter are fairly consistent throughout the day and represent typical street level traffic and pedestrian noise levels for a downtown urban center. The noise environment was also quite typical, with individual sources such as passing vehicles, aircraft, and construction equipment superimposed upon a steady background noise.

After present conditions were measured, an analysis of the post development noise environment was conducted. Future increaes in traffic volume, and the corresponding increases in noise level, were estimated for No-Build 1995 and Build 1995 conditions and compared to existing conditions. The results show that noise due to increases in traffic volume will not noticeably differ from existing noise levels. In addition, mechanical equipment for the project is anticipated to be sufficiently physically and structurally separated from building occupants, exterior open spaces, and pedestrians.

3.8 Geotechnical

Available subsurface data in the site area indicate that this area is typically underlain by 0 to 20 feet of miscellaneous fill, marine deposits ranging from 5 to 51 feet, glacial till ranging from 9 to 39 feet, and bedrock locally known as Cambridge Argillite, ranging in depth from 72 to 94 feet below ground surface. The groundwater level at the site is anticipated to range from El. +2 to -2 Boston City Base (BCB).

Virtually no excavation is currently anticipated for construction of the Jordan Marsh low-rise building or the Retail Center portion. Excavation for the Jordan Marsh northeast addition and One Summer Street office tower will only be required for the construction of foundation units to support the new building. Excavation for the parking garage below the Bloomingdale's Department Store and 500 Washington Street office tower will be completed with conventional excavation equipment and the "up-down" construction method.

New foundations are not planned for the central portion of the proposed Boston Crossing site or the Jordan Marsh store, but will be required for support of the One Summer Street office tower. Drilled-in, straight-shaft caissons that penetrate the existing mat and derive their support in the underlying glacial till and bedrock will support the office building. Below-grade columns and foundations for support of the Bloomingdale's Department Store and tower will be installed from ground surface prior to below-grade excavation.

The below-grade areas of the Jordan Marsh store, the One Summer Street tower above Jordan Marsh, and the existing Lafayette Place garage will remain in their present configurations. Therefore, potential impacts to structures adjacent to this portion of the project should be minimal. The construction of the below grade parking on the Hayward Place parcel may cause limited ground movements. Proposed construction procedures, however, will minimize ground movement.

The construction of additional levels for the specialty retail center on the central portion and the Jordan Marsh northwest addition and tower will not require groundwater lowering. Therefore, these structures will not impact area groundwater levels. The construction of the garage beneath the Bloomingdale's tower will require limited construction dewatering to facilitate excavation in-the-dry within the limits of the diaphragm wall. However, this dewatering within the diaphragm wall should not adversely impact area groundwater levels. In addition, area groundwater levels will be monitored throughout construction, and if any adverse effects are observed, remedial action will be taken and construction methods will be changed to mitigate futher construction-related impacts on groundwater levels.

The FPIR/FEIR also includes a description of the monitoring program that will be established to measure ground and structure movements in the area of excavation. In addition, prior to the start of construction, a pre-condition survey of adjacent buildings and structures will be conducted in order to establish a reference baseline. The FPIR/FEIR also describes performance criteria and remedial measures. Detailed monitoring of

excavation performance during construction will be undertaken in order to provide a mechanism to evaluate the wall performance continually and to allow modifications to construction procedures to be implemented.

It is anticipated that dewatering of the Bloomingdale's site will be necessary requiring BWSC permission to discharge water to the BWSC system adjacent to the site. If a temporary separation facility is required, it will be designed and submitted to the BWSC for approval prior to the start of dewatering by the contractor for the project.

3.9 Construction

A Traffic Maintenance Plan in compliance with the City's Construction Management Program will be submitted to the Boston Transportation Department for approval prior to the actual start of construction.

The construction period for the proposed Boston Crossing project is expected to last approximately six years, from 1990 to 1995. Typical construction hours for the project will be from 7:00 AM to 11:00 PM, Monday through Friday, and occasionally on Saturday.

The construction truck routes proposed utilize major thoroughfares rather than neighborhood streets, particularly avoiding Chinatown streets. Enforcement of truck routes will be accomplished through clauses in the contractors' and subcontractors' agreements. Limiting the impacts of construction traffic and truck noise on the adjacent neighborhoods was the most important factor in determining truck routes.

The staging for each area of development will be located to ensure safe and efficient construction with a minimum disruption to the existing tenants, pedestrians, and automobile traffic in the area. The proposed staging plan described later in this report is designed to isolate construction while providing safe access for pedestrians and automobiles during normal day-to-day activity and emergencies. Particular attention was given to Washington and Summer Streets due to their pedestrian character.

In order to ensure the public safety, detail officers on assignment in the construction zone will be responsible for maintaining a safe and orderly flow of vehicles and pedestrians.

3.10 Air Quality

The air quality analysis was performed to show the impact on air quality of the proposed Boston Crossing project. Areas of human activity (sensitive receptors) exposed to maximum air pollutant levels from motor vehicle emissions are identified in the project area. Using air quality modeling techniques, carbon monoxide (CO) levels were estimated at these sensitive receptors under the Build and No-Build cases and compared with Massachusetts and National Ambient Air Quality Standards (NAAQS).

The air quality analysis was based on a modeling protocol developed in coordination with and approved by the Boston Redevelopment Authority and the Massachusetts Department of Environmental Quality Engineering (DEQE). DEQE supplied estimated levels of "background" air quality as well as recommended procedures for calculating maximum one-hour and eight-hour CO concentrations at sensitive receptors located adjacent to seven key intersections in the project area. These procedures included modeling the key intersections of the project area using EPA MOBILE 3 and EPA CALQ3/CAL3QHC computer programs to calculate motor vehicle emission and CO concentrations at intersections. CO impacts from the project's existing and proposed parking facilites were also calculated at all the receptors.

The cumulative results of the intersection analysis, parking garage impacts, and background levels at each receptor are detailed in the report. Predicted concentrations represent the highest concentrations that could potentially exist during the simultaneous occurance of worst case meteorology and peak traffic. Typical pollution levels are expected to be lower than these worst case values. Using these worst case conditions no exceedances of the one hour standard (35 ppm) were predicted. The analysis did demonstrate that exceedances may exist for the eight-hour standard (9 ppm) at three intersections. These mitigation measures, as well as the City of Boston's current process of optimizing traffic flow, with computer driven signal timings, will serve to reduce CO background levels in the project area.

In response to concerns raised by the Conservation Law Foundation, impacts of the project on the tropospheric ozone were examined. A mesoscale (regional) analysis of emissions was performed for non-methane hydrocarbons (NMHC) and nitrogen oxides (NO_X), both of which are precursors of tropospheric ozone. Results of the analysis demonstrated a one percent increase of the hydrocarbon and nitrogen oxide emission burden due to the project for the Boston region.

In addition, the developers of Boston Crossing, Commonwealth Center, and One Lincoln Street have worked together and are in agreement on the proposed traffic mitigation measures.

3.11 Rodent Control

The project proponent will contract with a licensed exterminator prior to beginning any work at the project. Rodent extermination will be carried out before, during, and at the completion of all foundation work for the proposed project, in compliance with City and State requirements.

3.12 Urban Design

The proposed Boston Crossing project, located in the Midtown Cultural District, meets the urban design objectives of the Midtown Cultural District Plan, enhances the pedestrian environment, is generally consistent with the modified high spine/cluster skyline plan, as described in the text of the Midtown Cultural District Plan, and is architecturally compatible with surrounding structures.

The existing Jordan Marsh store will be rebuilt and will tie into a completely new five-level specialty retail mall where Lafayette Place is now located. Setback from the corner of Summer and Chauncy Streets, a 31-story office tower will rise above the Jordan Marsh store.

Exterior treatment of the Jordan Marsh store on its lower levels will resemble the vernacular of the original Jordan Marsh store that was previously on the site. The use of a corner entry tower, high retail windows at the ground level, and large repetitive window openings framed by thin columns will be compatible with nearby historic retail facades.

The office tower above Jordan Marsh, at approximately 475 feet, will be taller than the structures in the immediate vicinity and will be visible on the skyline as a sculptural element - consistent with the Midtown District skyline plan. A deep setback from Washington and Summer Streets results in the appearance from street level of a tower which is one block away. The tower is designed to fit in stylistically with the surrounding commercial architecture through vertical articulation of facades, window treatment, and rich masonry detailing. Polychromatic brick, granite, and glass will be used, consistent with the character of building materials of adjacent retail structures. Similar facade detailing will be used on the new retail component at the corner of Summer and Chauncy Streets.

The five-level specialty retail center that will connect Jordan Marsh with Bloomingdale's provides active retail frontage along Washington Street, including numerous entries to individual stores and the internal streets of the center. The retail

center has a vaulted skylight over the main entrance, at West Street, which leads to a grand elliptical space and then through to Chauncy Street. The entry is inset to reflect the continuation of West Street and to offer the opportunity for streetside pedestrian activity.

Bloomingdale's will occupy the southern end of the site, in the location of the existing surface parking lot. This building will be approximately 405 feet tall to the top of the last occupiable floor, with the department store on the first five floors and an office tower above. Like the other components of the project, this portion has been designed to preserve continuity of the streetwall by presenting active facades at the pedestrian level with large retail windows separated by regularly-spaced granite columns and spandrels up to the streetwall setback. As with the One Summer Street office tower, the 500 Washington Street tower above Bloomingdale's is set back from the streetwall towards the center of the site to allow as much light and air as possible to reach sidewalks and streets below. The south office tower has been designed to be compatible with the two towers of the proposed Commonwealth Center development. A major design and activity focus is created at the southernmost end of the site where an octagonal pavilion signals arrival at the project.

The interior of the proposed project has been designed to conform with the objectives of the Midtown Cultural District Plan, allowing for easy access and circulation of pedestrians through internal streets and arcades that extend the historic street grid. Multiple building entrances reinforce the District Plan's objectives for preserving a flow-through nature for the shopping district.

In response to the Preliminary Adequacy Determination and various other interested parties and review groups, the FPIR/FEIR addresses, in greater detail, specific areas of concern such as overall character, street-level activity, relationship between towers in the district, slimness of the towers, reduced height for the south tower, reduced shadow on Boston Common, usable public open space, and the celebration of the Cultural District.

The new design approach to the south tower features a slimmer tower with an average floorplate of approximately 22,500 square feet above a height of 125 feet and reconfigured lower office floors with generous setbacks from the surrounding streets. The building massing appears as two slim masonry towers that are connected by a light glassy element. The overall height of the south tower is also reduced. As a result of these design changes, the south tower contributes no new shadow to the Boston Common at the critical time of day for zoning code calculation.

The new design for the North Tower establishes the tower as a beacon for the Midtown Cultural District. Set back to the maximum extent possible from surrounding streets, this tower has three additional occupied floors as compared to the DPIR and DEIR design. The tower now establishes a consistent design character with the top of the building as an integral part of the full tower design. Elimination of former designs for a more independent sculptural top to the tower has also served to minimize shadow on Boston Common.

The lower five to seven stories of the Boston Crossing project will play a tremendously important role in public perception and enjoyment of the area and have therefore received particular attention in this more detailed phase of design. The sense of interest, variety and pedestrian orientation has been reinforced by the design of distinct project components for Jordan Marsh, Bloomingdale's, the new retail component, individual retail entries, major access points through the project, office entries, and so forth. Facade design, the choice and palette of materials, unique design details, variety in heights and symbolic entry canopies are all a part of this evolving design effort.

The concept of through-block connections to reestablish historic circulation routes and the pattern of the historic ladder blocks has been further developed with the design of interior streets in the retail center. Special attention has been paid to Opera Way - the internal east/west passage through Bloomingdale's - which has now been expanded from a one-story walkway to a two-story-high arcade on the scale of many well-known European shopping arcades.

Open space in this project consists of the dense, urban-scale sidewalks surrounding the project - similar to the historic street pattern of the District - major entryways to the various project elements, interior pedestrian passageways and the intersections of such passageways. Continuing design efforts by project planners, architects and landscape architects have coordinated with ongoing city efforts at streetscape design and have, within this context, addressed the issues of expanded sidewalks, lighting, paving and street furniture, and special opportunities for performance space or artist participation.

3.13 Historic Resources/Archaeology

There are no historic buildings on the site of the proposed Boston Crossing project, and the project is not located within an historic district. The analysis of project impacts upon area historic resources, therefore, focused on potential effects of the proposed building upon districts and buildings within the study area identified in the Scoping Determination. The historic context for the Boston Crossing project, as described in this

report, includes areas and buildings whose historic significance had been identified at the Federal, State, and City level. The historic districts analyzed included the Washington Theatre District, the West Street District, the Temple Place District, the Commercial Palace District, the Pre-Fire Commercial District, and the Essex/Textile District. Issues of design compatibility, massing, and shadow were examined and compared to existing conditions.

Because the proposed project is located on a site where there is now a department store, retail mall, hotel, and parking lot, the proposed project will not directly alter or isolate from its surrounding environment any historic buildings or districts described. The project has been designed with the consideration of the historic character of buildings in the six nearby historic districts.

Increased shadows on historic facades from the proposed Boston Crossing project can be expected at the southern end of the site where the historic theatres face the proposed Bloomingdale's store, which is to be built on the now vacant portion of the project site. In addition, some added shadow on the Filene's facade may affect the ambience at Downtown Crossing, although additional shadow on the upper levels of Filene's will not be immediately apparent to pedestrians during much of the year.

As was shown in the DPIR and DEIR, in the midday shopping hours on March 21, September 21 and October 21, the shadow analysis shows the proposed project design results in more sunlight at Downtown Crossing than the as-of-right scheme.

In addition, the project proponent will work with the City Archaeologist to identify any areas slated for excavation that contain previously undisturbed soils and to work out an evaluation plan for any such areas identified.

In response to comments received on the DPIR and DEIR, technical corrections were made and the FPIR/FEIR also includes an explanation of how the changes in the project design since publication of the DPIR and DEIR affect the Washington Street commercial corridor. As a result of a series of design review meetings with the City agency staff and community groups, the 500 Washington Street tower above Bloomingdale's has been decreased in height by three floors, made slimmer, and set back more generously from Washington Street in order to reduce perception, to the maximum extent possible, of the tower massing along Washington Street.

3.14 Infrastructure

In response to issues raised in the Preliminary Adequacy Determination, the Certificate of the Secretary of Environmental Affairs and additional comment letters with respect to infrastructure, additional information has been provided in the FPIR/FEIR. The FPIR/FEIR includes refinement of the impact of the proposed project including the Lafayette Hotel on water, sewer, electric, steam, and telecommunications systems, as well as specific commitments to mitigation measures. The FPIR/FEIR also includes an analysis of the project's impacts combined with future development. Details of project connections to infrastructure systems have also been included when such details can be determined.

The utility system modifications required to accommodate the proposed development have been and will continue to be the subject of discussions with the respective utility company representatives. Concepts for the relocation and/or support-in-place of each system have been developed and approved and details are being developed for each system as the design progresses.

With the Lafayette Hotel, an average daily water demand of 565,200 gallons per day is projected to meet the office and retail water needs. The existing distribution systems are adequate to satisfy the project demand.

The proposed project is expected to contribute a maximum increase in wastewater flow of approximately 390,600 gallons per day (gpd). This estimated flow will be moderated by the effects of water conservation components factored into the project design. The Boston Water and Sewer Commission (BWSC) believes that the increase in sewage flow can be accommodated by the existing system.

Steam from Boston Thermal Energy is expected to be the main source of space heating for the project, although electricity will be considered as an alternative. All air conditioning needs for the proposed project will be met with electricity. Steam, however, will continue to be evaluated as an alternative energy source for air conditioning. Natural gas will continue to be relied on for restaurant use.

The estimated annual electric power requirements for the proposed project are 100.89×10^6 kilowatt hours per year (kwh/yr), and it is not anticipated that new distribution facilities will be required in the Boston Edison Company system to meet the requirements of the proposed Boston Crossing project.

The estimated annual steam use is expected to be 99.42 x 10^9 btu/year. New building systems incorporated into the proposed project will provide significantly more efficient use of energy. Service will be provided by new connections from the existing Boston Thermal Energy Corporation (BTEC) distribution network located in adjacent streets. A new distribution system will be developed on-site.

The estimate for natural gas use is 96.67 x 10^6 cubic feet per year. Boston Gas is able to provide the increased level of service with their current system.

Telecommunications service to existing facilities located on-site and adjacent to the site will be maintained during project construction by either maintaining existing services in place or by replacement of the existing system with modified or new facilities. It is anticipated that new distribution capacity will be required in the telecommunications system adjacent to the site to meet the needs of the proposed project. This would require the installation of new cabling between the New England Telephone Company (NET), Harrison Central Office (CO), and the site. Construction of this system will be coordinated with the proposed development schedule and other infrastructure improvements to minimize adverse impacts on adjacent roadways and to maintain adequate facilities for existing customers.

The design of the vaults will be consistent with the new Downtown Crossing and Cultural District standards, as they are finalized by the Public Works Department. A separate storm drain system to service the project site is presently being evaluated in conjunction with the BWSC. If it is found that this system is feasible, its implementation will allow the project to exceed the MWRA's expressed one to one goal. The BWSC has requested, and the proponent has agreed, to separate the project water demand to the extent feasible. This will mean that the project's on-site fire protection system service connections will be from the Southern High Service (SHS) water system and that its domestic water supply will be from the Southern Low Service (SLS) system.

A discussion of the proposed Boston Crossing project on MBTA facilities is also included in the FPIR/FEIR. The emergency exit/tunnel ventilation facility located at the Washington Street/Hayward Place intersection must be modified to accommodate the proposed garage's, Bloomingdale's, and 500 Washington Street's (South Tower's) foundation and entrances. The existing below-grade facility will be maintained, but the access to grade for both the emergency exit and the ventilation system will be revised to accommodate the proposed construction of the Boston Crossing project. Details of the required modification, as well as construction sequencing and timing, are being developed in coordination with the MBTA to assure that the function of this facility is not adversely impacted by the project.

Due to the proximity of the Boston Crossing construction to the existing MBTA facilities, the development will implement extensive pre-condition and construction monitoring surveys of all adjacent MBTA facilities to ensure that construction activities required to develop the site do not adversely impact the MBTA facilities.

4.0 CONCLUSION

The applicant submits that this FPIR/FEIR successfully illustrates the proposed Boston Crossing's conformity to the goals and objectives of the Midtown Cultural District Plan and addresses the issues raised in the Preliminary Adequacy Determination, the Certificate of the Secretary of Environmental Affairs, and additional comment letters.

The design and program of the Boston Crossing project has evolved over the past year as a result of over one hundred meetings with interested community groups, property owners, labor unions, and public agencies. The proposed development offers innumerable benefits to the area and the City and will serve as a catalyst to encourage the further renewal of the Midtown Cultural District.

II. GENERAL INFORMATION

II. GENERAL INFORMATION

1.0 APPLICANT INFORMATION

1.1 Project Identification

Project Name: Boston Crossing

Address/Location: Bounded by Washington Street, Summer Street, Chauncy Street, Avenue de Lafayette, Harrison Avenue Extension and Hayward Place.

1.2 Development Team

Developer:

Campeau Massachusetts, Inc.
One Avenue de Lafayette
Boston, Massachusetts 02111
(617) 542-7373
Lenard B. McQuarrie
Carl Geupel

Attorneys:

Palmer & Dodge
One Beacon Street
Boston, Massachusetts 02108
(617) 573-0100
David E. Rideout

Ropes & Gray
One International Place
Boston, Massachusetts 02110
(617) 951-7000
Stephen P. Lindsay

McCormack & Putziger
265 Franklin Street
Boston, Massachusetts 02110
(617) 439-4100
Myrna Putziger

Consultants:

Architects:	Skidmore, Owings & Merrill 220 East 42nd Street New York, New York 10017 (212) 309-9525 David Childs, Design Partner Karen Alschuler, Planning Partner RTKL 400 East Pratt Street Baltimore, Maryland 21202 (301) 528-9500 George Pillorage, Partner in Charge
Landscape Architect:	SWA Group 711 Boylston Street Boston, Massachusetts 02111 Thomas Adams (617) 266-4703
Construction Manager:	Tishman - Beacon "A Joint Venture of Tishman Construction and Beacon Construction" One Lafayette Place Boston, Massachusetts 02111 (617) 330-1400 Joseph Ross, Project Executive
Environmental/MEPA Article 31:	HMM Associates, Inc. 196 Baker Avenue Concord, Massachusetts 01742 (508) 371-4000 Margaret Briggs, Vice President
Traffic:	Bruce Campbell & Associates 38 Chauncy Street Boston, Massachusetts 02111 (617) 542-1199 Bruce Campbell, President Howard/Stein Hudson Associates, Inc. 38 Chauncy Street - Suite 710 Boston, Massachusetts 02111 (617) 482-7080 Diane Gray

Civil Engineer:	Parsons Brinckerhoff Quade & Douglas, Inc. 120 Boylston Street Boston, Massachusetts 02116 (617) 426-7330 Morris Levy, Senior Vice President
Geotechnical:	Haley & Aldrich 58 Charles Street Cambridge, Massachusetts 02116 (617) 494-1606 Mark Haley, Vice President
Wind:	Technology Integration and Development Group, Incorporated One Progress Road Billerica, Massachusetts 01821 (508) 667-3779 Richard E. Hayden, President

1.3 Currently or Formerly-Owned Developments in Boston

The Developer has not undertaken any developments in Boston other than the Boston Crossing development.

2.0 LEGAL INFORMATION

2.1 Legal Actions Pending Concerning the Proposed Project

The legal actions pending concerning the proposed project are listed in Appendix A. Not included in Appendix A are actions against tenants and former tenants for back rent or other lease defaults and responding claims and countersuits by tenants and non-tenant matters being defended by liability insurance carriers.

2.2 History of Tax Arrears on Property Owned in Boston

The only properties in Boston owned by the Developer or its affiliates are the Jordan Marsh property owned by Al-Jordan Realty Corp. and the Lafayette Place garage leasehold owned by the Developer. There is no history of, or current, property tax or 121A arrearages on these properties.

2.3 Evidence of Site Control Over the Project Area

The real property owned or to be acquired by the Developer or its affiliates and the status of such property is as follows:

	Property	Status
(a)	Jordan Marsh Department Store	Owned by Al-Jordan Realty Corp., an affiliate of the Developer.
(b)	Lafayette Place Retail Center	Owned by Lafayette Place Associates, a Massachusetts limited partnership with Mondev Mass., Inc. and Sefrius Corp. as general partners. Leased to the Developer with an option to purchase. Developer to acquire City's reverter rights (after 100 years).
(c)	Lafayette Place Garage	Owned by the City of Boston. Forty Year Lease to Lafayette Place Parking Associates assigned to the Developer on March 15, 1988. Developer to acquire remainder interest after expiration of forty year lease.
(d)	Avenue de Lafayette (between Washington Street and Harrison Avenue Extension)	To be discontinued and transferred by the City to the Developer.
(e)	Hayward parcel (between Washington Street, Avenue de Lafayette (to be discontinued), Harrison Avenue Ext. and Hayward Place)	To be transferred by the City to the Developer, its southerly and easterly sides reduced by approximately 5,800 square feet because of the planned widening of Hayward Place and Harrison Avenue Extension.
(f)	Subsurface area of approximately 6,000 square feet in Avenue de Lafayette and Harrison Avenue Extension	To be discontinued and transferred by the City to the Developer.

- Continued -

	Property	Status
(g)	Various space above and below the public ways surrounding the proposed project for specific project uses	Public ways to be discontinued as to such space and the space will be transferred to the Developer.
(h)	Easements and other property interests running to the benefit of the City within the Jordan Marsh and Lafayette Place parcels and running to the benefit of the Developer within the Lafayette Place garage	Easements configured to the needs of the Boston Crossing Development and the City of Boston will be substituted for the current easements.

The acquisition of properties from the City of Boston will be pursuant to Sections 31B and 31D of Chapter 486 of the Acts of 1909, (added, respectively, by St. 1966, c. 642, Section 12 and St. 1982, c. 190, Section 24).

Restrictive covenants and contractual restrictions affecting Developer's right or ability to accomplish the Proposed Project are described in Appendix B.

2.4 Public Access Easements Into, Through or Surrounding the Site

The Developer will grant to the City of Boston certain easements for pedestrian passage within the new specialty retail center in substitution for those easements reserved to the City in the existing Jordan Marsh store and Lafayette Place retail center. The configuration of the proposed project will establish new routes of public access into and through the site. Passageways will connect major shopping locations within the complex to shopping streets surrounding the site. These pedestrian passageways will enhance the pedestrian environment as described in Article 38-16.6 of the Boston Zoning Code.

Avenue de Lafayette will be discontinued between Washington Street and the Harrison Avenue Extension.

The Boston Crossing project will be bounded by the following public ways: Washington Street, Summer Street, Chauncy Street, Avenue de Lafayette, and a reconfigured Harrison Avenue Extension and Hayward Place.

2.5 Status and Extent of All Chapter 121A Agreements Governing Any Portion of the Site

The Developer proposes that each of Al-Jordan Realty Corp. and Lafayette Place Associates (retail) Chapter 121A projects be terminated by approval of the BRA and that home rule legislation will be enacted confirming such termination. The Agreements are summarized below.

(a) The Lafayette Place Associates (LPA) Section/6A Contract provides for an annual payment to the City of Boston equal to the amount by which 23% of "Adjusted Gross Retail and Commercial Rents" exceeds the amount which LPA pays to the Commonwealth of Massachusetts pursuant to Section 10 of Chapter 121A. This amount is, however, subject to an annual cap until 1991. The limit is calculated by multiplying the "Net Leased Area" of the Lafayette Place retail center times a factor, which is $3.30 per square foot for 1989 and $3.40 per square foot for 1990. The Section 6A Contract provides that the City assessors will not set a Fair Cash Value for purposes of Section 10 of Chapter 121A which would result in a Section 10 payment greater than that determined under the "23%" formula.

(b) The Al-Jordan Section 6A Contract, dated January 2, 1976, provides for an annual payment to the City of Boston equal to the amount by which the sum of $1,600,000 plus a variable figure based on "sales" exceeds the amount which Al-Jordan pays to the Commonwealth of Massachusetts pursuant to Section 10 of Chapter 121A. The variable figure is equal to 1/2% of the first $40,000,000 of "sales" over $60,000,000 in any year, plus 1/4% of any additional "sales" (i.e., amounts over $100,000,000). The Section 6A Contract provides that the City assessors will not set a Fair Cash Value for purposes of Section 10 of Chapter 121A which would result in a Section 10 payment of greater than $1,600,000.

(c) Each of the Lafayette Place and Al-Jordan 121A projects are governed by a Regulatory Agreement with the BRA. Such agreements will terminate with the termination of Chapter 121A status.

2.6 Nature and Extent of Requirements Arising from the Bedford-West Urban Renewal Plan and Related Land Disposition Agreement.

2.6.1 Bedford-West Urban Renewal Plan

A portion of the project site lies within the Bedford-West Urban Renewal Area and is subject to the requirements of the Bedford-West Urban Renewal Plan.

The Bedford-West Urban Renewal Plan contains the following specific development controls:

Permitted Uses:	Retail commercial, office and parking. Ground floor on Washington Street to be devoted to retail commercial use.
F.A.R.:	Maximum 10.
Parking:	Maximum of 700 spaces.
Other Requirements:	o Service access from Chauncy Street and Avenue de Lafayette only; o Parking access from Chauncy Street and Avenue de Lafayette only; and o Land use, access and design shall be planned so as to integrate with the redevelopment and reuse of contiguous parcels.

The following building requirements and restrictions are also applicable within the Bedford-West Urban Renewal Area:

- o Open Space - All open areas must be suitably landscaped and/or paved so as to provide a visually attractive environment.

- o Off-Street Loading - A certain number of off-street loading bays must be provided, depending on gross floor area and use, unless the developer can demonstrate that off-street loading needs can be adequately met in other ways, or that the lack of such loading facilities will not be detrimental to surrounding areas of the project.

- o Other On-Site Improvements - All improvements must be properly maintained in good condition and sufficient and suitable refuse storage and disposal facilities must be provided. Open storage of materials, equipment or merchandise shall not be permitted.

- o Sign Control - Signs are restricted to an identification of the establishment and the nature of its products, and are to be in conformance with the Boston Zoning Code.

- o Parking - Parking structures are to be designed to provide one entrance lane for each 300 parking spaces.

- o Utilities - All utilities must be underground.

- o Handicapped Persons Provisions - New buildings must be designed so that persons in wheel chairs can enter, leave and travel about the buildings in a reasonable manner without undue obstruction.

It is anticipated that minor modifications to the Bedford-West Urban Renewal Plan will be required with respect to the plan's parking, service, loading and use requirements. Other or different minor modifications may be required as a result of project changes during the Article 31 process.

2.6.2 Land Disposition Agreement

The portion of the site within the Bedford-West Urban Renewal Area is subject to the Land Disposition Agreement dated October 12, 1979 among the Boston Redevelopment Authority, the City of Boston and Lafayette Place Associates, recorded with the Suffolk County Registry of Deeds and Book 9288, Page 66. Obligations and requirements under the Land Disposition Agreement affecting that portion of the project are as follows:

(a) That the property shall be used only for the uses specified in the Bedford-West Urban Renewal Plan.

(b) That there shall be no discrimination upon the basis of race, color, religion, sex or national origin in the sale, lease or use of the property.

(c) That all advertising, including signs for the sale or rental of the property, must include, the legend "An Open Occupancy Building".

(d) That, until the expiration of the Urban Renewal Plan, all improvements on the property must be maintained in good and safe condition and repair and must comply with all applicable laws, ordinances, codes and regulations.

(e) That the prior written approval of the BRA must be obtained prior to any construction or demolition work which will substantially affect the external appearance of existing improvements.

The Developer does not anticipate that any amendments will be required to the Land Disposition Agreement.

3.0 FINANCIAL INFORMATION

3.1 Financially Involved Participants

Campeau Massachusetts, Inc., a Massachusetts corporation, is a financially- involved participant in the proposed project. Campeau Massachusetts, Inc. is a wholly-owned subsidiary of Campeau Corporation (U.S.) Inc., a Delaware corporation. Campeau Corporation (U.S.) Inc. is, in turn, wholly-owned by Campeau Corporation, a corporation amalgamated under the laws of the Province of Ontario. Campeau Corporation is publicly owned with each of Robert Campeau and Olympia & York Development Limited owning more than ten (10) percent of its outstanding stock entitled to vote.

The addresses of these parties are:

Campeau Massachusetts, Inc.
One Avenue deLafayette, Suite 3-300
Boston, Massachusetts 02111

Campeau Corporation (U.S) Inc.
7 West Seventh Street
Cincinnati, OH 45202

Campeau Corporation
40 King Street West, Suite 5800
Toronto, Ontario, Canada MSH 3Y8

Mr. Robert Campeau
40 King Street West - Suite 5800
Toronto, Ontario MSH 3Y8

Olympia & York Development Limited
2 First Canadian Place, 28th Floor
Toronto, Canada MSX 1B5

Bank references are:

Bank of Nova Scotia
44 King Street West
Toronto, Ontario, Canada MSH 1H1
(416) 866-3917
Mr. Robert Gray

Royal Bank of Canada
20 King Street West
Toronto, Ontario, Canada MSH 1C4
(416) 974-3649
Mr. Paul Diner

Other financially-involved participants in the proposed project are also indirect subsidiaries of Campeau Corporation, including Al-Jordan Realty Corp., Jordan Marsh Stores Corporation and Bloomingdale's Real Estate, Inc. The Pro Formas have been submitted to the BRA under separate cover.

4.0 PROJECT AREA

A description by metes and bounds of each of the parcels constituting the project area is included as Appendix C hereto. Such parcels are the Al-Jordan Parcel, the Lafayette Retail Parcel, the Hayward Parcel A, the Hayward Parcel B and the Facade Projection Parcels.

The project area is approximately 318,813 square feet (7.3 acres) in size.

5.0 PUBLIC BENEFITS

Developers of the Boston Crossing project have proposed an extensive public benefits package, including a wide variety of innovative programs. Following is a brief description of the proposed linkage contributions and a few of the other public benefits being considered.

5.1 Linkage (Articles 26a and 26b)

Use of the linkage funds generated by the Boston Crossing project will be maximized to ensure that Boston residents will benefit from the City's expanding economy. Boston Crossing will succeed only if the residential and commercial interests of the City's population can share in the economic benefits. Boston Crossing's linkage contribution, by far the largest the City will have received to date, will establish job training programs and create affordable housing consistent with the housing goals of the Midtown Cultural District.

5.1.1 Housing Linkage

A critical component of the Midtown Cultural District Plan is the creation of 500 housing units in Chinatown for the Asian community. To achieve this goal, the Boston Redevelopment Authority has set aside five of its properties located in Chinatown for this sole purpose. The first of these properties to be developed will be Parcel R-3/R-3A.

R-3A Associates Limited Partnership, of which the Chinese Economic Development Corporation (CEDC) is the managing general partner, and the Asian Community Development Corporation (ACDC) were tentatively designated on March 14, 1988 by the BRA to develop Parcel R-3/R-3A. Combined, the two projects will provide approximately 250 residential units, two-thirds of which will be targeted towards low and moderate income residents of Chinatown. Campeau intends to use a portion of its approximately $13,340,000 housing linkage funds to assist CEDC and ACDC in underwriting the development cost gap of the affordable units on Parcel R-3/R-3A.

In addition to providing linkage funds for the development of affordable housing, Campeau plans to use, if available, the remaining balance of its linkage funds to help finance the construction of a community facility in Chinatown on Parcel C. The community facility proposed for Parcel C will be developed by a partnership of neighborhood-based community agencies: South Cove YMCA, South Cove Community Health Center, Quincy School Community Council, Chinese American Civic Association, Chinatown Boys and Girls Club, Asian American Resource Workshop, and the Chinese Progressive Association.

The partnership is in the process of hiring a development consultant to work with them through the design and development phases of the project. In addition, the partnership issued a Request for Proposals for design services for the site. Submissions for the development of Parcel C were due November 30, 1989.

The Boston Crossing team is proposing that the Boston Redevelopment Authority approve use of a portion of the housing linkage funds to develop the center on Parcel C as an integral component of the affordable housing development on Parcel R3/R-3.

If there are funds remaining due to the failure of one or more of such projects to go forward, or some other cause, Campeau will pay such funds as a housing contribution to the Neighborhood Housing Trust.

5.1.2 Jobs Linkage

The Jobs Contribution Grant for the proposed project will approach $2,670,000. Campeau plans to propose to the Neighborhood Jobs Trust that a significant portion of its jobs linkage contribution be used to fund training and educational programs. The development team is beginning to develop a comprehensive job training program that complements the needs of the project as well as those of nearby communities. Boston Crossing's jobs linkage program addresses the City's need to expand its economic base, diversify the neighborhood economy, and improve conditions and the status of the local labor economy. Through job training and language programs, Boston residents will have the opportunity to develop skills enabling them to partake in Boston Crossing's economic success. These programs, summarized below, will go far to provide employment with a future. Programs being proposed to the Neighborhood Jobs Trust include English as a Second Language (ESL) programs, pre-apprenticeship construction training programs, and the establishment of a Retail Jobs Academy. The careful targetting of jobs training grants will allow the grants to support the three programs for several years.

English as a Second Language (ESL)

Campeau plans to propose to the Neighborhood Jobs Trust that a portion of Boston Crossing's linkage contribution be used to institute ESL programs. The language barrier that exists, particularly among Asians, is a concern raised by the Chinatown community that needs to be addressed. While language training is critical for the economic advancement of this population, existing ESL programs are over-subscribed and the availability of instructors is limited. The developers of Boston Crossing will work with the Chinatown Neighborhood Council's Social Services sub-committee and local service providers to determine how to maximize the use of these funds to improve employment opportunities for Boston residents who are not native English speakers.

Pre-Apprenticeship Construction Training Programs

The developers of Boston Crossing plan to propose to the Neighborhood Jobs Trust to use a portion of its Jobs Contribution Grant to fund the Women in the Building Trades, pre-apprenticeship program. By providing funds for pre-apprenticeship training, women interested in the construction industry, with its high wages, will be able to learn more about the field and develop skills that will enable them to participate actively in the development of Boston Crossing.

Retail Jobs Academy

The developers of Boston Crossing plan to propose to the Neighborhood Jobs Trust to use a portion of its Jobs Contribution Grant to set up the City's first Retail Jobs Academy. The intent of the Retail Jobs Academy is to provide targeted residents with the skills necessary to obtain permanent jobs at all levels within the project. The project will generate approximately 4,000 entry level and management positions in retailing. Residents of Boston can be trained and recruited for these positions. The Boston Crossing team will work with the Office of Jobs and Community Services, the Boston Redevelopment Authority, both the Human Resource and Organizational Development departments of Jordan Marsh and locally based social service providers to implement the skills programs.

5.2 Additional Job Training

In addition to the jobs linkage contribution, the Boston Crossing team is currently participating in additional job training programs. The developers of Boston Crossing are working with the Boston Jobs Academy to expand upon the Academy's existing training curriculum. Jordan Marsh has begun hosting training sessions twice a month at the Jobs Academy. The course focuses on "retailing as a career" and "making your image successful".

5.3 Taxes

Following substantial completion of costruction, the annual real property taxes for the Boston Crossing development are projected to be in the range of $10,000,000. The annual real property and 121A taxes at that time for the Jordan Marsh store and Lafayette Place facilities, if Boston Crossing does not go forward, are projected to be approximately $2,800,000. The difference of $7,200,000 will be a direct benefit to the City, on an annual basis, from the development of Boston Crossing.

The Commonwealth of Massachusetts will also benefit from taxes due to the Boston Crossing project. Sales taxes from project retailers, for example, are expected to surpass $20,000,000.

5.4 Cultural Facilities (Article 38, Section 14)

It is proposed that the Development Plan for the Boston Crossing project include the proposed development of a new theater or cultural facility which will be of a useful condition, size and type to contribute to the balance of cultural facilities responsive to the needs of the Midtown Cultural District as described in Article 38 of the Boston Zoning Code. In addition, any transfer of the theater will be to an entity or entities who shall comply with the requirements of Article 38.

Boston Crossing sponsors are studying the possibility of rehabilitating a small ladder block building in the Midtown Cultural District. The building, located at 26 West Street, is visible from Boston Crossing and is located in a historic district. The project will involve major structural alterations to create two black box theatres, support spaces including a lobby and provisions for barrier-free access. The building will also include a portion of the project's childcare space.

5.5 Opportunities for Local Businesses (Article 38, Section 18)

The developers of Boston Crossing intend to work with Chinatown-based organizations to establish an affirmative marketing plan targeted towards neighborhood businesses. In addition, through the assistance of these organizations, the developer intends to reach out to the communities of Boston through advertising and community forums to facilitate access to business opportunities within the Boston Crossing project.

The developers of Boston Crossing will work with Chinatown-based organizations in an attempt to identify appropriate businesses and prospective start-ups which will fit not only into the Boston Crossing merchandising plan, but prove to be successful ventures, both for the tenant owners and the landlord. Campeau's Leasing and Operations staff will provide advice on business planning, merchandising, design, budgeting, staffing and financing.

A concept which has been tried and proven at Faneuil Hall Marketplace and could take advantage of the Boston Crossing project is that of pushcart and "bullmarket" merchandising. Such a program can offer an economically attractive venture to a person wishing to enter the field of retailing. The carts are rented on a monthly basis with minimal investment in fixtures and equipment.

Through this approach, small business entrepreneurs would not have to assume the financial risks involved when entering into a long-term lease agreement and assuming a mortgage to the cost of the building and fitting out a store. The only investment required to undertake this type of business would be for the purchase of specialized inventory.

Boston Crossing will provide space for at least twenty pushcarts or retailing stands within the specialty retail center. The developers of Boston Crossing will purchase the carts and rent them to vendors on a monthly basis. The monthly rental fee will include electricity.

Successful proprietors of such operations could expand their businesses to open shops within the project or in nearby neighborhoods. Experience has shown that local "mom & pop" proprietors provide the best likelihood of success.

5.6 Child Care (Article 38, Section 18)

Boston Crossing plans to offer an innovative, developmental child care program that will benefit families working within the project, living within the City's neighborhoods, and contributing to the City's new vitality. The developers of Boston Crossing are currently exploring potential locations for approximately 12,000 square feet of child care space. It is intended that at least 4,000 square feet of child care space be provided within the project, and the remaining portion be located within the Midtown District and/or in Chinatown.

Child care facilities will be a valuable amenity, not only to the project but to the residents of nearby neighborhoods working at Boston Crossing. Boston Crossing will work with the City, providers, neighborhood groups, and tenants in an attempt to create mechanisms for making the center affordable. Child care space is expensive to build and operate due to important safety and health codes. Boston Crossing plans to budget funds comparable to the cost of creating first-class office space towards the creation of child care facilities.

5.7 Boston Residents Employment Plan

During the construction of Boston Crossing, the Boston Crossing development team will strive to ensure that 50 percent of the total employee work hours shall be by Boston residents, at least 25 percent of the total employee work hours shall be by minorities, and at least 10 percent of the total employee work hours shall be by women. Chinatown residents stand to benefit from all three of these goals.

Upon completion of the project, the Boston Crossing development team will encourage tenants to attempt to ensure that 50 percent of employment opportunities created by the project will be made available to Boston residents.

5.8 Transportation

Transportation improvements proposed by the Boston Crossing team include the replacement and upgrading of the MBTA emergency access at the corner of Hayward Place and Washington Street. In addition, it is intended that Boston Crossing's expanded parking facility can serve Chinatown residents and Midtown patrons.

The Boston Crossing development team is working with area developers and the Boston Transportation Department (BTD) to improve the flow of westbound traffic by widening Hayward Place and the Harrison Avenue Extension. In addition, the Boston Crossing team along with the developers of the Commonwealth Center project and the One Lincoln Street project are working with the Boston Transportation Department and the Boston Redevelopment Authority and have been meeting for over one year to form a Midtown Developers Transportation Management Association (MDTMA). The MDTMA has been formed to address transportation-related issues with regards to the development and operation of the three projects. One goal of the MDTMA will be to ensure that the vitality of the Midtown and Downtown Crossing area is preserved and enhanced throughout the construction of the three projects. Another goals of the MDTMA is to work with the Boston Transportation Department to develop appropriate Commuter Mobility Programs (CMPs). Such programs will include a transportation coordinator for the three projects, a ride-sharing database, and car and vanpooling. Truck routes, staging, and the encouragement of car and vanpooling among the trade unions for the three projects will be coordinated through the MDTMA.

The MDTMA will work towards implementing appropriate Transportation Demand Strategies (TDS's) that reduce the number of single-occupancy vehicles traveling through the area during peak traffic periods. Strategies will include selling T-passes and tokens, coordinating an alternate work-hour program for employers in the project, and developing a commuter center with an on-site commuter ride-matching system.

6.0 EMPLOYMENT

6.1 Construction Jobs

During the construction phase of Boston Crossing, it is estimated that approximately 3,030 direct jobs will be generated at the construction site with a payroll of $157.5 million.

6.2 Permanent Jobs

Currently, 1,814 people are employed at the Boston Crossing site including workers from both the Lafayette Place Mall and Jordan Marsh. Upon completion, it is estimated that Boston Crossing will provide over 11,000 permanent jobs.

7.0 REGULATORY CONTROLS AND PERMITS

7.1 Existing Zoning Requirements, Zoning Computations, and Anticipated Requests for Zoning Relief

The proposed project is located in the Midtown Cultural District within PDA-II, one of the areas in which planned development areas are permitted. The Developer has received development plan approval from the BRA and the Zoning Commission and zoning map amendment approval from the Zoning Commission. The Developer will seek approval for zoning exceptions from the Board of Appeal.

The project is subject to the public benefit criteria of Section 38-14, the general design and environmental impact standards of Section 38-16, the ground level/cultural use requirements of Section 38-18(1), the neighborhood business opportunities requirements of Section 38-18(3), the child care requirements of Section 38-18(4), the general use restrictions and requirements of Section 38-18, and the design requirements of Section 38-19. Section 5.0 of this chapter includes a description of the project's proposed public benefits, including descriptions of the proposed child care facility and cultural and community facilities. Also, because the project involves construction of over 100,000 square feet of gross floor area, the project is subject to Articles 26A and B requirements for development impact projects and is subject to review by the Boston Civic Design Commission under Article 28.

7.1.1 Use and Dimensional Exceptions

Other than a conditional use permit for the project's off-street parking facilities and exceptions for minor use items, it is not anticipated that zoning exceptions and permits will be required for project uses within the Boston Crossing development. Appendix D contains a description of the dimensional exceptions that are anticipated to be required for the project.

7.1.2 Additional Zoning Relief

Other or different exceptions than those described in this section and Appendix D may also be required as a result of project changes during the Article 31 process.

7.2 Anticipated Permits Required from Local, State, and Federal Entities

Anticipated permits and proposed application schedule for the project are as described in Appendix E.

7.3 Proposed Schedule for Coordination of Massachusetts Environmental Policy Act Processing With Article 31 Processing

A schedule is included in Appendix F.

7.4 Anticipated Amendments to the Bedford-West Urban Renewal Plan and Related Land Disposition Agreement

7.4.1 Bedford-West Urban Renewal Plan

The requirements of the Plan are described above in Section 1(b)(6). The Developer anticipates minor modifications to the Plan with respect to the plan's parking, service, loading and use requirements. Other or different modifications may be required as a result of project changes during the Article 31 process.

7.4.2 Land Disposition Agreement

The requirements of the Land Disposition Agreement are described in Section 2.0. The Developer does not anticipate that any amendments will be required to the Land Disposition Agreement.

8.0 COMMUNITY GROUPS

8.1 Interested Parties

The names and addresses of project area owners, displacees, abutters, and community groups which may be substantially interested in or affected by the project are included, respectively, in Appendices G-1, G-2, G-3 and G-4.

8.2 Meeting Log

A list of meetings held to date with interested groups is included in Appendix H. A future meeting schedule has not been determined but the Boston Crossing team will continue to meet with the groups listed in Appendix G-4 and other interested groups.

III. DESCRIPTION OF PROJECT

III. PROJECT DESCRIPTION

1.0 PROPOSED DEVELOPMENT

Existing uses occupying the Boston Crossing site include Jordan Marsh, Lafayette Place, the Lafayette Hotel, a 1,024-car underground parking garage, and a surface parking lot.

The mix of uses at the proposed Boston Crossing project will include:

Retail		
Jordan Marsh		410,000 sf
Specialty Retail and Restaurants		700,000 sf
Bloomingdale's		250,000 sf
Office		
Northern Office Building		854,775 sf
Southern Office Building		595,225 sf
Child Care/Museum/Athletic Club	up to	59,500 sf
Cinema		45,000 sf
Below-Grade Parking		2,024 spaces

The Lafayette Hotel is an independently owned and operated facility and will remain. The existing parking garage will also be retained. Additional parking will be constructed below-grade under Bloomingdale's. Table III-1 presents the Boston Crossing development program broken down by area of development.

The primary components of Boston Crossing are described as follows:

- Jordan Marsh

  Jordan Marsh's "plain-Jane" downtown store will be rebuilt as the company's flagship store for the twenty-first century. The five-story department store, plus basement, will open to Washington and Summer Streets and tie into a five-level specialty retail center. To support this additional retail activity, the mixed-use goals for the area, and the cost of an entirely rebuilt store, an office building will be located above Jordan Marsh on the Summer Street and Chauncy Street corner. A new two-story retail component will occupy

TABLE III-I
BOSTON CROSSING DEVELOPMENT PROGRAM

	Square Feet Existing	Option A (155- As-of-Right)	Option B (Proposed)
Office (Total)	0	1,635,865	1,450,000
Retail (Total)	1,100,000	1,468,638	1,360,000
Hotel*	413,000	413,000	413,000
Child Care	0	0	up to 9,500
Athletic Club	0	55,000	40,000
Gallery/Museum	0	0	10,000
Cinema	0	0	45,000
TOTAL GROSS SF	1,513,000	3,572,503	3,327,500*
Parking	1,149 spaces	2,024 spaces	2,024 spaces
Site Area	7.0 acres	7.3 acres	7.3 acres
Proposed Heights**	--	90'/155'	475'/110'/405'
Theatres	0	0	N/A

---

* The Notice of Project Change states that the project includes approximately 1,926,000 square feet of new space. That number does not include the existing square feet.

** Heights are measured from grade to the top of the last occupied floor. Grade has been established for the site at +32'-3" Boston City Base.

approximately 20,000 square feet at this corner of the project. The office building will be accessed via a street-level entrance on Summer Street. Jordan Marsh will remain in operation throughout the construction period.

The exterior treatment of the rebuilt store will reflect the scale and detail of the historic Jordan Marsh store that was previously on the site, as well as that of the Filene's store across Summer Street. Its urban rhythms and human scale elements will be an appropriate addition to the historic feeling of old Boston. A 90-foot clock tower element reminiscent of the earlier Jordan Marsh store long since gone from the site, will mark the entrance to the store at the corner of Summer and Washington Streets.

o Retail Specialty Center

A new five-level retail specialty center will be created south of Jordan Marsh (on the former Lafayette Place site). The interior of the center will be cross axial with through-pedestrian routes following the historic street patterns of Boston which will extend street level retail activity south along Washington and through the retail center. Approximately 700,000 square feet of diverse shops and restaurants will be linked together by grand, skylit spaces, providing easy access to components of the project. The shopping opportunity will appeal to a broad cross-section of Boston citizens.

Boston Crossing's new specialty center will bear little resemblance to the existing Lafayette Place. The long walls of grey brick will be removed and replaced with an articulated facade indicative of the multiple tenants and activities within. The cost of rebuilding the center (only the structure will be preserved) will be considerably greater than the new construction on clear land. Only by anchoring the center with two, full-scale flagship department stores with office buildings above, can the center achieve the competitive edge over suburban shopping centers necessary to secure the downtown retail economy. The adjacent office buildings give the project the "economic strength" to make it successful.

- Bloomingdale's

  A five-story, full service, Bloomingdale's Department Store, plus basement, will anchor the southern end of Boston Crossing, establishing high quality retail vitality at this focal point of the Midtown Cultural District. As the chain's New England flagship, located in downtown Boston, Bloomingdale's will feature entrances on Washington Street, Avenue de Lafayette, and at the corner of Washington Street and Hayward Place.

  Aggressive marketing, regional advertising, and the tradition of lively theme-related merchandising, which characterize Bloomingdale's stores, will provide tremendous potential for coordination with Cultural District promotional and entertainment activities. The office building above Bloomingdale's will offer an upper level sky lobby and a 25-story tower above the store that complements and is coordinated with the proposed Commonwealth Center project located on the west side of Washington Street.

- Parking Garage

  Boston Crossing will add a new 1,000-space (875 net new spaces) parking garage under the proposed Bloomingdale's to reduce the project's impact on parking facilities in the area. In combination with the 1,024 spaces existing underneath Lafayette Place, the project will provide a major facility in Boston to serve shoppers, office workers, visitors, and restaurant and theater patrons. The garage will be reached through the existing Lafayette Place parking garage, avoiding additional garage entrances on the surrounding streets. Preliminary review by parking engineers indicates that, with two of the six entrance and exit lanes reversible, the combined garages can take advantage of the existing innovative pre-pay system which minimizes queuing and thereby reduces air pollution. The new parking garage is an important factor to the success of the project. Subsurface conditions will determine the final size of the garage, but it may extend as many as eight levels below the basement of Bloomingdale's.

o Public Amenities

Boston Crossing will not rely on automobiles as its principal means of access. Quality connections to the MBTA system will be provided in three locations: at grade at the corner of Chauncy and Summer Streets; in the first basement level of Jordan Marsh; and with provisions for improved egress from the Chinatown Station at the southern end of the site and a future entrance to a new platform serving the new South Boston T-Line and station expansion proposed by the MBTA. Hayward Place will be widened to improve westbound traffic flow as indicated in a recent study completed by TAMS engineers, referenced in the Midtown Cultural District Plan. The Boston Crossing team is planning to establish a Midtown Developers' Transportation Management Association (MDTMA) with developers of the proposed Commonwealth Center project and the One Lincoln Street (Kingston-Bedford) project. The MDTMA has plans to address transportation-related issue in order to allow the continued vitality of the Downtown Crossing area.

The project envisions streetscape improvements, including planters, benches, vending-cart locations and other improvements on Washington Street, and will assure handicapped access to shopping areas. A busy, safe pedestrian environment for daytime and nighttime activities will serve the interests of area developers, restauranteurs and shopkeepers, cultural facility operators and patrons, and Chinatown residents alike.

As described earlier, Boston Crossing will make a significant investment in cultural/community facilities in the neighborhood to serve Boston artists and patrons. Boston Crossing sponsors are planning to rehabilitate a small, ladder block building in the Midtown Cultural District. The building located at 26 West Street is visible from Boston Crossing and is located in a historic district. The project will involve major structural alterations to create two black-box theatres, support spaces including a lobby and provisions for barrier-free access, and a child care center.

Economic benefits resulting from the development of Boston Crossing are significant and will affect the spectrum of the City's population. Through the

Boston for Boston Initiatives, a major portion of the employment opportunities stemming from the construction and operation of Boston Crossing will be reserved for Boston residents. Neighborhood communities will benefit from Campeau's linkage contribution in the form of affordable housing creation and employment training.

A more detailed description of public benefits is included in Section 5.0 of the General Information section.

During the environmental review of the proposed Boston Crossing project as studied in the DPIR and DEIR, adjustments were made to the massing and design of the project to mitigate the shadow impacts on the Boston Common, to increase the distance between the South Tower and the proposed Commonwealth Center project on the west side of Washington Street, and to decrease the perceived width of the South Tower.

Because the northern office component is on the eastern portion of the A1 - Jordan parcel and set back further from Washington Street and the Boston Common, the shadow impacts of a building on this site are less than those of a building of similar height located on the Hayward Place parcel. Therefore, three floors were shifted from the southern office component on the Hayward Place parcel and redistributed to the northern office component. In addition, the floorplates of the southern tower were reduced, resulting in a slimmer tower and thus, even further reduced shadow impacts.

The additional analyses and information requested for the wind, shadow, and urban design sections reflect these changes in the massing. Along with the changes in massing came slight changes in the program. The new analyses in the Infrastructure Systems and Transportation Components reflect the program changes. Where new information was not requested for the FPIR/FEIR, original analyses were not revised to reflect these mitigation measures.

In addition, supplemental information, additional analyses, or revisions were requested for the Historic Resources Component, and portions of the Environmental Protection Component. Sections of the Environmental Protection Component requiring additional information include the Solid and Hazardous Waste, Noise, Geotechnical and Groundwater Impacts, and Air Quality sections. The following chapters address the Preliminary Adequacy Determination issued by the BRA, the Certificate issued by the Secretary of Environmental Affairs and comments from several public agencies and concerned parties.

IV. TRANSPORTATION COMPONENT

IV. TRANSPORTATION COMPONENT

1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to clarify information presented in the Draft Project Impact Report (DPIR) and Draft Environmental Impact Report (DEIR), address concerns raised by the Boston Redevelopment Authority (BRA) and the Boston Transportation Department (BTD), and respond to comments raised through the MEPA process.

Traffic data used in the original DPIR and DEIR were obtained from various sources including the BTD, the Kingston-Bedford DEIR (One Lincoln Street), the Midtown Cultural District Report, and traffic counts performed by HMM Associates and Bruce Campbell & Associates (BC&A). The traffic volumes were adjusted utilizing BTD adjustment factors and then balanced. The traffic volumes in the Boston Crossing DPIR and DEIR differ from those in the Commonwealth Center and the Kingston-Bedford DEIRs. The difference in volumes can be attributed to a number of factors including weather, day of the week, season and traffic operations on the highway system leading into the local network. If the counts were taken on days when unusually long delays occurred on the surrounding highway system and adjacent local roadways, drivers may have been more likely to re-route into other less congested areas. Other differences in volumes at intersections are caused by decisions made by the traffic engineer when balancing a network. These decisions include which of the multiple intersection counts to use in the network and whether traffic volumes should be balanced between intersections.

The differences in intersection traffic volumes within the roadway network may influence the resulting levels of service. Different levels of service will also result from other variables including assumed lane use, signal type - pre-timed versus actuated, classification of an intersection to be within the Central Business District (CBD), capacity restrictions due to illegal parking and pedestrian volumes crossing at the intersection. The following are the primary assumptions made in preparing the Boston Crossing DPIR and DEIR and the FPIR/FEIR.

- o A balanced roadway network between all intersections was prepared except where garages were located mid-block.

- o Pre-timed signal types were used (timings not optimized).
- o All intersections were assumed to lie within the CBD.
- o Capacity restrictions due to illegal parking were used.

These assumptions not only affect the existing levels of service, but also directly influence projected future levels of service. Future levels of service are also affected by many other factors including directional distribution of traffic into a proposed development, methods of generating background development and project specific traffic volumes, background development considered, work and non-work trip percentages, assumed mode splits, vehicle occupancies and background growth. The assumptions employed in the Boston Crossing project are summarized below.

- o Trip distribution was adapted from the City of Boston "Draft Transportation Access Plan Guidelines".

- o Trip generation rates for individual background and project specific development came from a combination of sources. Office, retail, hotel and child care trip generation rates are from ITE's Trip Generation Manual, Fourth Edition. Athletic club, museum, theatre and condominium trip generation rates are from the City of Boston "Draft Transportation Access Plan Guidelines".

- o Trip generation for the One Lincoln Street (Kingston-Bedford), Commonwealth Center, Post Office Square Garage and 600 Washington Street projects came from individual impact reports.

- o The background development considered was obtained from the BRA.

- o Work and non-work trip percentages were developed from trip generation rates published in the the City of Boston "Draft Transportation Access Plan Guidelines".

- o Mode splits used for work and non-work trips were developed from trip generation rates listed in the City of Boston "Draft Transportation Access Plan Guidelines".

- o Vehicle occupancies were determined by BTD. An average 1.6 persons per vehicle for office work and retail non-work trips and an average 1.4 persons per vehicle for all other land uses for work and non-work trips was used.

- o Background growth rate utilized in the DPIR and DEIR was 0.5 percent per year.

The assumptions outlined above were described in further detail in the DPIR and DEIR.

The differences encountered in existing traffic volumes become more pronounced in the future conditions projections because of the varying methodologies used in the traffic analyses. Most differences that could occur in determining existing and future traffic volumes are also applicable to the pedestrian volumes in the vicinity of the development.

1.2 Project Description

The development program for the Boston Crossing project has been slightly amended since the submission of the DPIR and DEIR. As originally proposed, the transportation study analyzed the vehicular, transit and pedestrian traffic associated with the development of 1,449,000 square feet of new office space, 325,500 square feet of new retail space, 67,000 square feet of child care and athletic club facilities and 10,000 square feet of cultural uses.

The new development program includes 1,450,000 square feet of new office space, 260,000 square feet of new retail space, up to 9,500 square feet of child care space, 40,000 square feet of athletic club facilities, 45,000 square feet of cinema and 10,000 square feet of cultural uses. The amended program generates approximately 35 fewer trips during the AM peak and about 65 fewer during the PM or critical peak during the week. There will be a minor increase of 22 new trips - 2 in and 20 out during the Saturday peak. The worst levels of service are expected to occur during the PM peak, when the volumes are the highest as was the case in the DPIR and DEIR. The addition of the increased Saturday peak hour volumes will not bring Saturday volumes above projected PM peak hour volumes. The mitigation proposed at the study area intersections will easily accommodate the additional Saturday volumes.

1.3 Study Methodology

The methodologies used in the DPIR and DEIR for the Boston Crossing project are the same as those used in this document. The analyses performed for each component of study includes the base, future No-Build and future Build conditions.

2.0 EXISTING CONDITIONS

2.1 Expanded Study Area

The Boston Crossing DPIR contained level of service (LOS) analyses for 22 intersections that would be affected by the project-generated traffic. Traffic volumes generated by the Boston Crossing project will also affect traffic operations at the following intersections during the AM and PM peak hours:

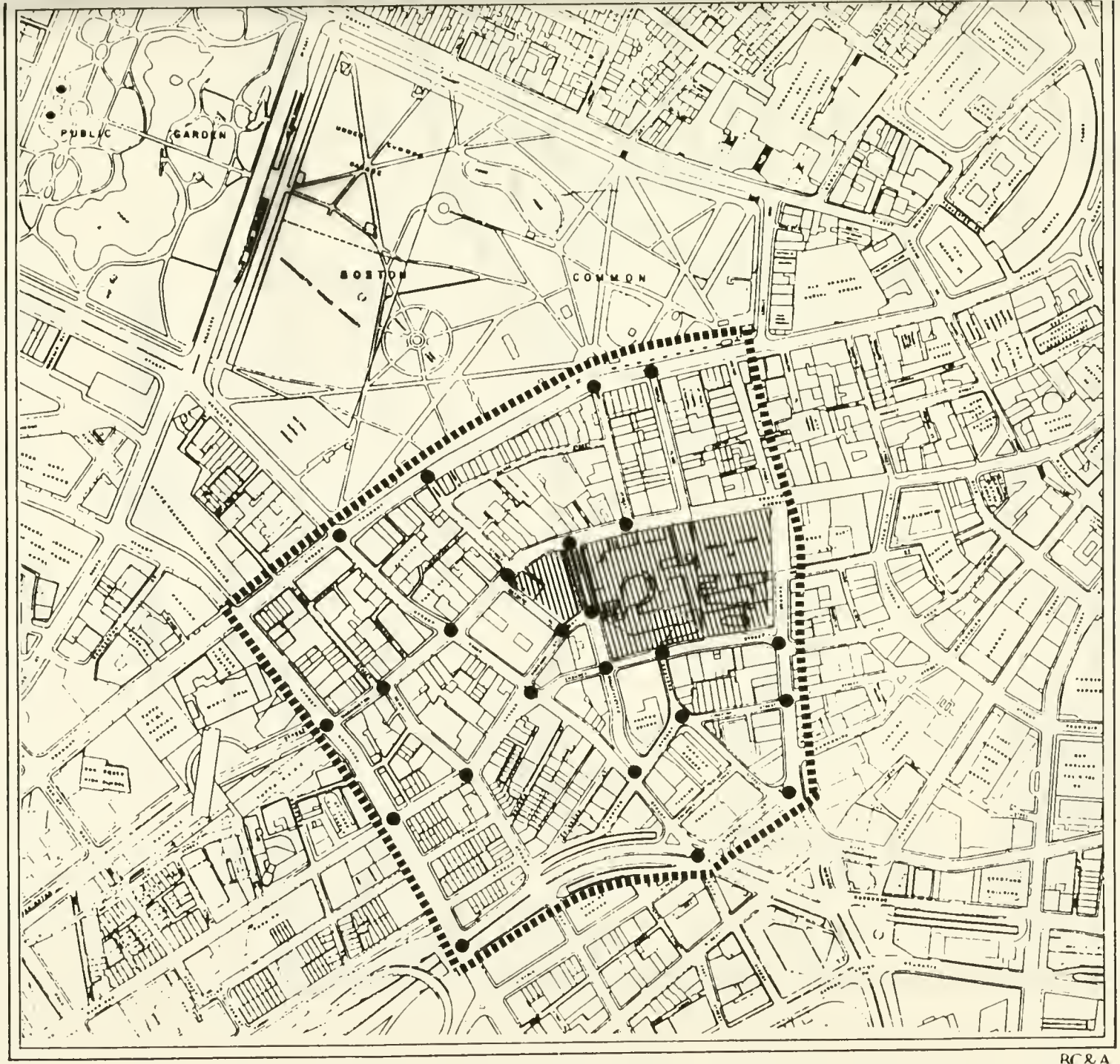
- Kneeland Street/Surface Artery
- Summer Street/Lincoln Street/Bedford Street (Church Green)

These intersections, along with the original 22 studied are shown in Figure IV-1.

2.2 Existing Traffic Volumes

Traffic volumes at the two additional intersections were obtained from counts performed by BC&A and from the Kingston-Bedford DEIR. The peak hour volumes at these locations were adjusted and balanced with the surrounding intersections volumes presented in the DPIR and DEIR to obtain the 1989 existing traffic volumes.

The AM and PM peak hour traffic volumes are shown in Figure IV-2. Intersection volumes at the 22 original intersections studied are not shown to maintain clarity. The peaking times at the two additional intersections is similar to adjacent intersections and generally occur between 8:00 AM to 9:00 AM and between 5:00 PM to 6:00 PM.



BOSTON CROSSING

FIGURE IV-1
Transportation Impact Study Area

KEY:

IMPACT AREA

ANALYSIS INTERSECTION

PROJECT LOCATION

0 250 500 1000

BC&A

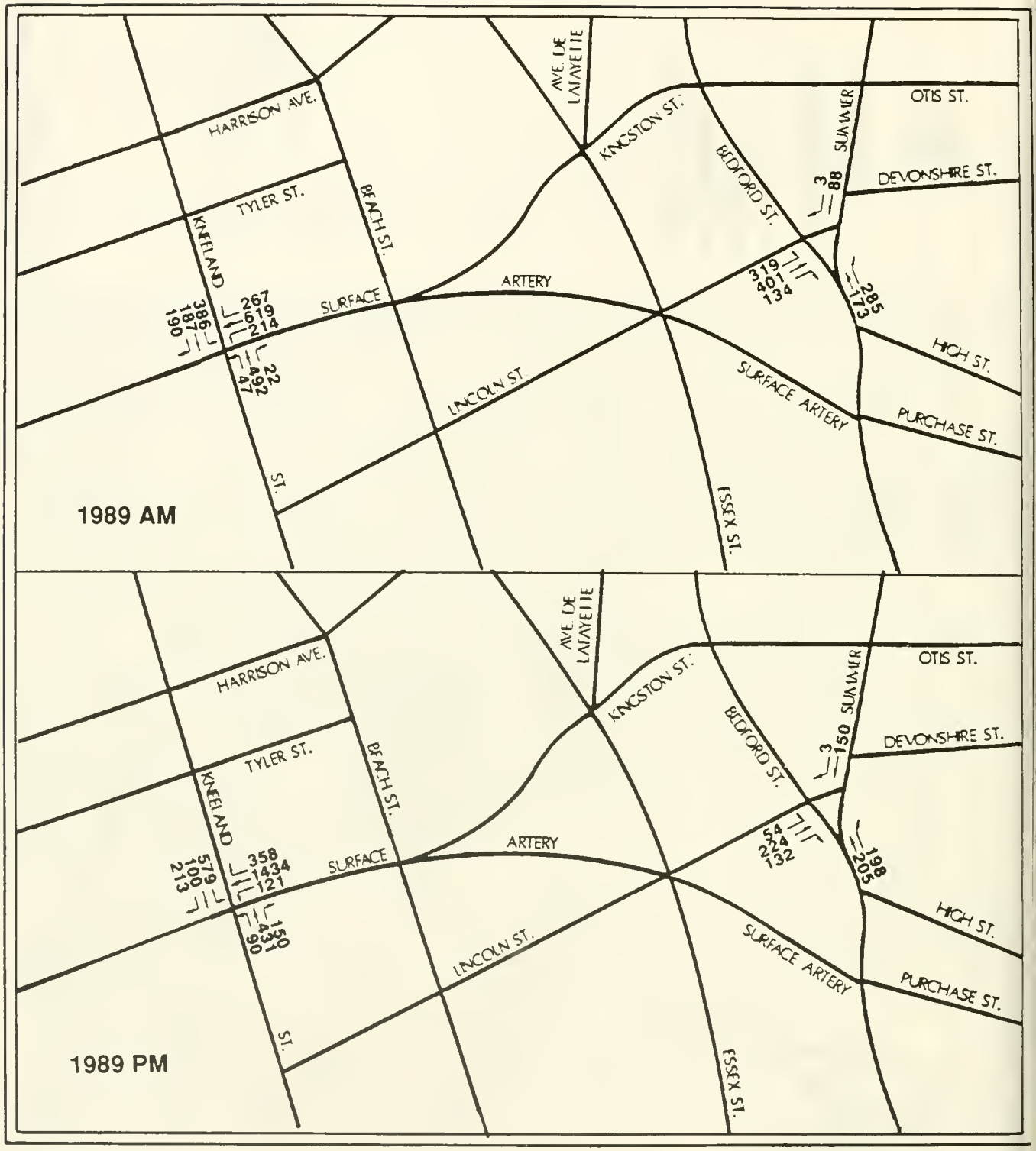


FIGURE IV-2
EXISTING AM AND PM PEAK HOUR TRAFFIC VOLUMES

BOSTON CROSSING

Not to scale.

2.3 Existing Traffic Operations

The intersection level of service (LOS) analyses were performed utilizing the existing signal timings, existing roadway geometry, lane configurations, and traffic conditions. Currently, one of the three Lincoln Street approach lanes, at the Church Green intersection, is blocked due to construction in the vicinity. Therefore, this intersection was analyzed using two approach lanes on Lincoln Street for 1989 existing conditions.

Table IV-1 indicates the existing level of service and delay at the two additional intersections for both the AM and PM peak hours. As indicated, traffic operations are at acceptable levels of service (LOS D or better) during both the existing AM and PM peak hours.

2.4 Pedestrian Volumes

The pedestrian volumes presented in Tables IV-5 and IV-6 of the DPIR and the DEIR inadvertently omitted the AM peak pedestrian period and volumes, however, they were shown graphically in Figure IV-9 of the DPIR and DEIR. The AM pedestrian volumes are much lower than midday, PM and Saturday pedestrian volumes. The AM peak pedestrian period and volumes are shown in Table IV-2.

2.5 Parking

The area utilized for the parking supply and demand study was determined by the BTD. The study area includes lots and garages within a 2,500-foot walking distance of the project that are shown in Figure IV-3 and Table IV-3.

A garage survey was conducted at the Lafayette Place Garage to determine the usage and the average length of stay on an average weekday. The study confirmed the original information presented in the DPIR. The garage functions mainly as a commuter garage with 52 percent of the parkers working in the area, 26 percent attending work related meetings in the area and only about 9 percent utilizing it for shopping purposes. The average duration of the work related parker was 5.5 hours. About 60 percent of the work-related parkers parked over 4 hours with about 54 percent parking 8 or more hours.

TABLE IV-1

ENTERING VOLUMES AND LEVEL OF SERVICE SUMMARY

Existing Conditions	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Vehicles Entering	LOS	Overall Delay*	Vehicles Entering	LOS	Overall Delay
Kneeland Street/ Surface Artery	2,424	B	13.94	3,476	C	20.19
Summer Street/ Lincoln Street/ Bedford Street	1,403	D	37.42	966	B	13.89

* Overall delay measured in seconds.

TABLE IV-2

SUMMARY OF PEDESTRIAN COUNT DATA AT SURVEY LOCATIONS

AM PEAK PERIOD AND PEAK DIRECTIONAL VOLUMES

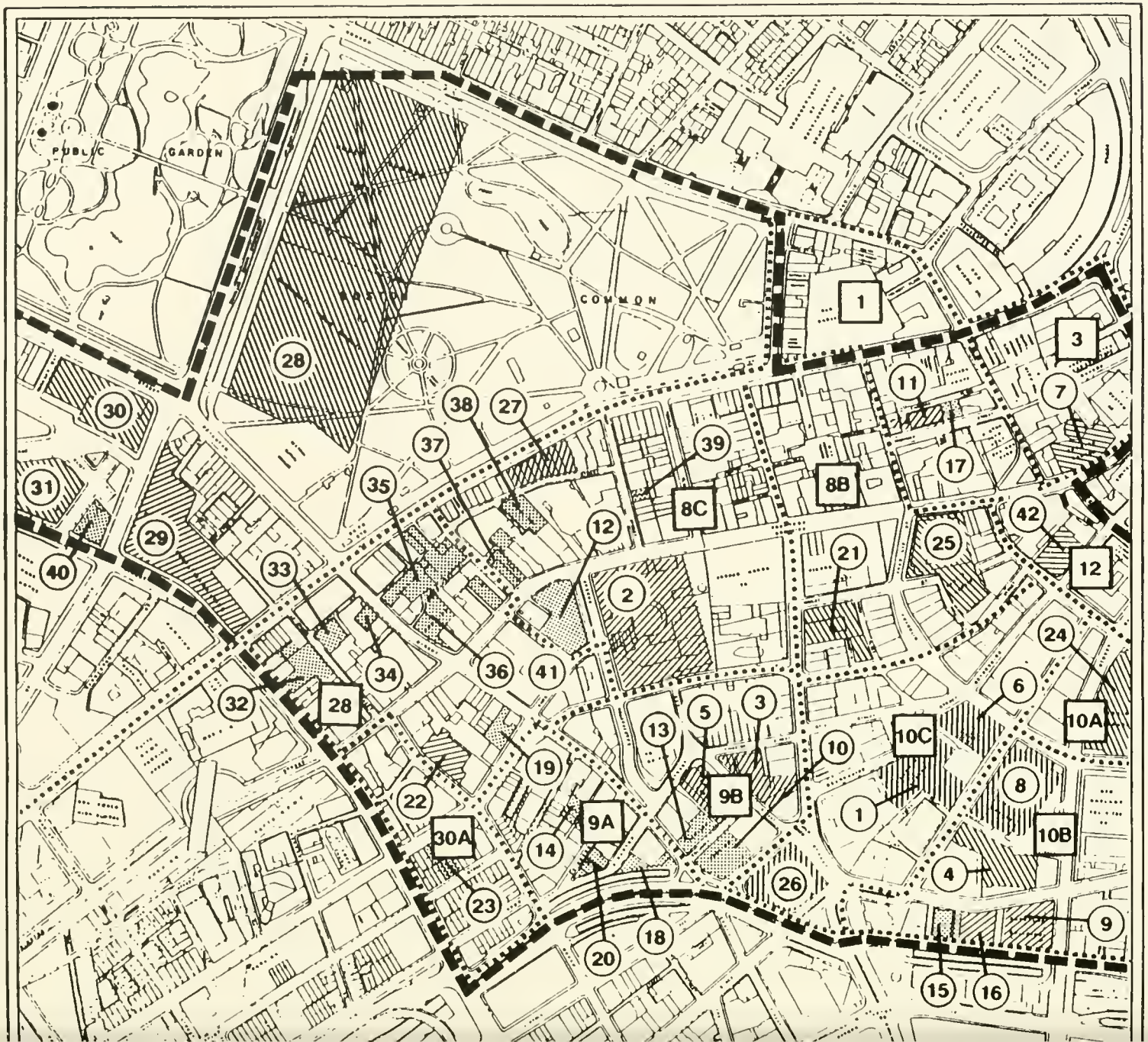
Station Number	Station Location	AM Period (2 Hours)			AM Peak (1 Hour)	
		Dir 1+	Dir 2++	Total	Dir 1	Dir 2
1	Avery Street	*	*	*	*	*
2	West Street	*	*	*	*	*
3	Temple Place	*	*	*	*	*
4	Winter Street	3,001	1,113	4,114	2,189	729
5	Washington Street (North)	1,134	2,958	4,092	780	2,021
6	Hawley Street	*	*	*	*	*
7	Arch Street	*	*	*	*	*
8	Summer Street	2,861	2,935	5,796	1,600	1,572
9	Bedford Street	547	208	755	360	138
10	Avenue de Lafayette	*	*	*	*	*
11	Chauncy Street	*	*	*	*	*
12	Harrison Avenue	61	43	104	36	32
13	Washington Street (South)	323	540	863	219	372

---

* = Not counted.

\+ = Towards the site.

\+ + = Away from the site.



BOSTON CROSSING

FIGURE IV-3
Parking Supply

KEY:

- CTPS ZONE BOUNDARY
- STUDY BOUNDARY
- SURFACE LOT
- GARAGE
- (XX) MAP NUMBER SEE TABLE
- CTPS ZONE

0 250 500 1000
FEET

TABLE IV-3

STUDY AREA OFF-STREET PARKING SUPPLY: 1989

Map No.	Location	Type	Use	Capacity 1989
1	Winthrop Square Garage	Garage	Public	1,125
2	Lafayette Place Garage	Garage	Public	1024
3	99 Summer Street	Garage	Private	70
4	75-101 Federal Street	Garage	Private	140
5	Kingston/Bedford Garage	Garage	Public	550
6	150 Federal Street	Garage	Private	365
7	Pi Alley Garage	Garage	Public	600
8	100 Federal Street	Garage	Private	197
9	Keystone Building	Garage	Private	163
10	Lincoln-Essex Lot	Lot	Public	130
11	523 Province Street	Lot	Public	31
12	564-580 Washington Street	Lot	Public	125
13	128-130 Essex Street	Lot	Public	51
14	3-5 Parking on Street	Lot	Public	28
15	Purchase Street Lot	Lot	Private	24
16	Purchase Street Garage	Garage	Private	20
17	Province Street Garage	Garage	Public	290
18	130 Kingston Street	Lot	Public	18
19	22 Edinboro Street	Lot	Public	15
20	101 Arch Street	Garage	Private	27
21	Shoppers Garage	Garage	Public	500
22	17-21 Tyler Street	Lot	Public	65
23	73-75 South Street	Lot	Private	12
24	Post Office Square Garage	Garage	Public	(1400)
25	Woolworth's Garage	Garage	Public	900
26	125 Summer Street Garage	Garage	Private	(300)
27	Tremont on the Common	Garage	Private	350

- Continued -

TABLE IV-3 (Continued)

Map No.	Location	Type	Use	Capacity 1989
28	Under Common Garage	Garage	Public	1,500
29	Transportation Building	Garage	Public	275
30	Four Seasons Hotel	Garage	Private	220
31	Motor Mart	Garage	Public	900
32	41-47 Stuart Street	Lot	Public	89
33	47-55 LaGrange Street	Lot	Public	50
34	30-34 Boylston Street	Lot	Public	18
35	43 Boylston Street	Lot	Public	173
36	Boylston and Essex	Lot	Public	15
37	8 Avery Place	Lot	Public	50
38	30-50 Mason Street	Lot	Public	57
39	17-21 West Street	Lot	Public	15
40	Stuart/Charles	Lot	Public	100
41	Washington/Avery	Lot	Public	29
42	50 Milk Street	Garage	Private	99
TOTAL				10,410

Lot Spaces	1,095	10.5%	Public Spaces	8,723	83.8%
Garage Spaces	9,315	89.5%	Private Spaces	1,687	16.2%

NOTE: The total number of spaces does not include spaces located in the Post Office Square Garage or the 125 Summer Street projects.

3.0 PROPOSED PROJECTS AND ROADWAY IMPROVEMENTS

3.1 Proposed Development Projects in Downtown Boston

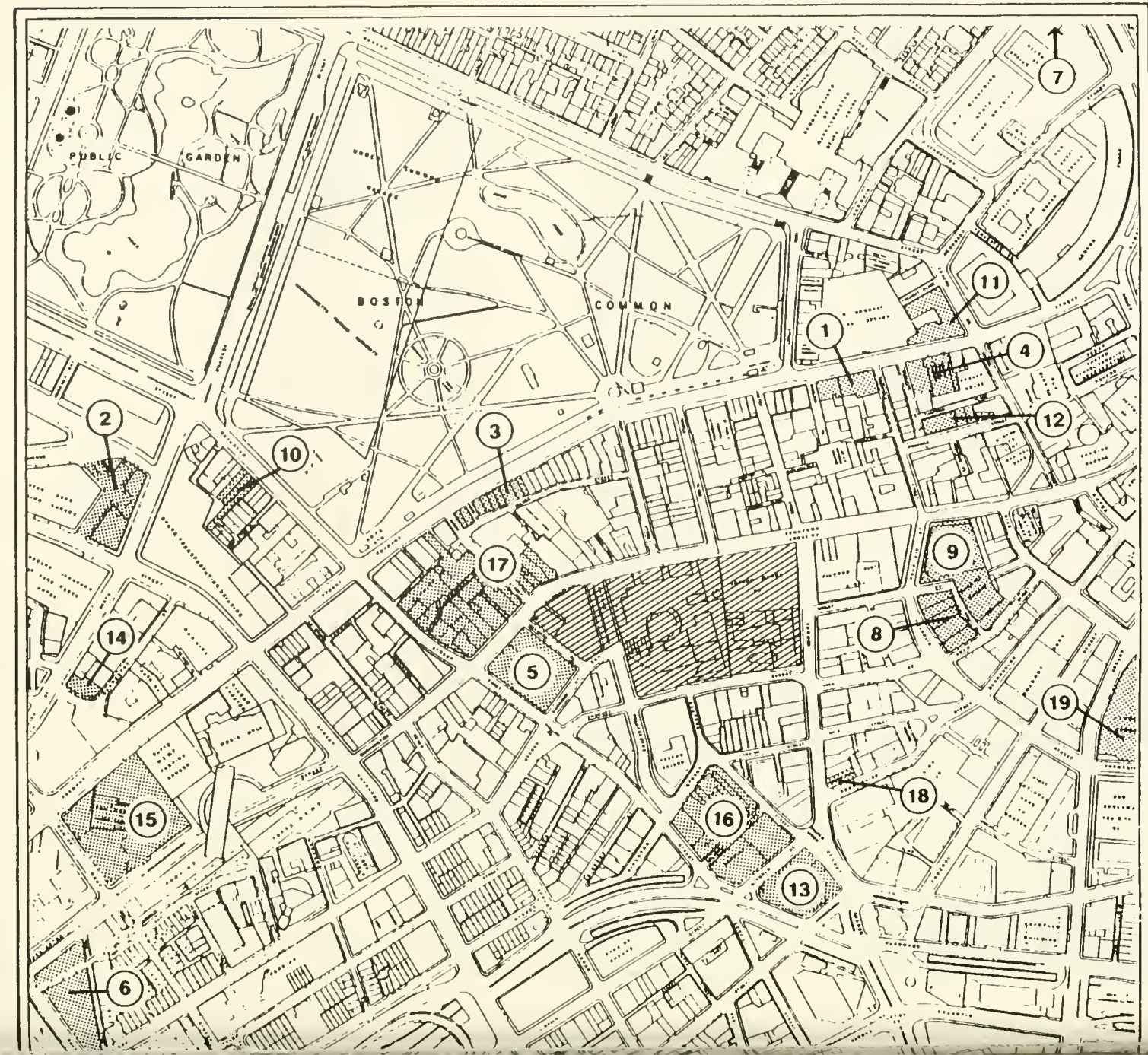
The DPIR and DEIR prepared for the Boston Crossing project included 19 other developments to be considered as background growth. These projects are shown in Figure IV-4. Traffic from 15 of these projects was generated utilizing ITE's Trip Generation Manual, Fourth Edition vehicle trip rates and the CTPS/CSI person trip rates for the Central Artery/Third Harbor Tunnel project, contained in the City of Boston "Draft Transportation Access Plan Guidelines". Methodologies to convert person trips to vehicle trips are the same as those outlined in the DPIR and DEIR. The proposed 600 Washington Street Garage, Commonwealth Center, One Lincoln Street, and Post Office Square Garage project consultants were contacted and each project's vehicle trip generation was utilized.

3.2 Transportation Projects

The transportation analyses prepared for the Boston Crossing project were completed using the roadway network with no major changes in street directions or circulation patterns (existing roadway network). In addition to the existing roadway network, there are a number of proposals which will influence the traffic circulation patterns. The proposals investigated include:

- The closing of Beach Street at the Chinatown Gate;
- The provision of two-way Essex Street between the Surface Artery and Kingston Street;
- The reversal of Hayward Place and Avery Street;
- The expansion of the pedestrian (auto-restricted) zone on Washington Street.

These proposals were incorporated into the revised roadway network. Future (1995) No-Build and Build traffic analyses were performed for both the existing and revised network.



BOSTON CROSSING

Figure IV-4
Downtown Development

1. 110-120 Tremont Street
2. Pavillion at Park Square
3. The Parkside Projects
4. 90 Tremont Street
5. 600 Washington Street
6. Parcel R-3/R-3A
7. One Bowdoin Square
8. 64-74 Franklin Street
9. Forty Franklin Straet
10. 146 Boylston Street
11. 73 Tremont Straat
12. 45 Province Street
13. 125 Summer Street
14. Parcel C-2
15. Don Bosco
16. Kingston-Bedford
17. Commonwealth Center
18. 295 Devonshire Street
19. Post Office Square Gerag

KEY:

BOSTON CROSS

OTHER DEVELOPMENT

0 250 500

FEET

The closure of Beach Street at the Chinatown Gate will have a positive impact on traffic operations at the Beach Street intersections with Washington Street, Harrison Avenue Extension and the Surface Artery. Traffic utilizing Beach Street would be rerouted onto Kneeland Street and Summer Street or a widened two-way Essex Street, each of which have or will have ample capacity to accommodate increased traffic volumes.

The provision of a two-way Essex Street between Atlantic Avenue and the Surface Artery will have a negative impact on the Surface Artery/Lincoln Street/Essex Street intersection. With this portion of a two-way Essex Street, a fifth approach will be added to the intersection. The additional approach will cause more delays because green time will be reduced on the other four approaches and will have to be allocated to this approach. A two-way Essex Street between the Surface Artery and Kingston Street will alleviate some of the delays encountered on other westbound routes (Summer and Kneeland Streets), but is not necessary to maintain acceptable levels of service on roadways serving the project site.

The reversal of Hayward Place and Avery Street is required with the closure of Avenue de Lafayette between Harrison Avenue Extension and Washington Street. The provision of a reversed Avery Street will provide a more direct westbound connection to Tremont and Boylston Streets. Traffic operations along West and Temple Streets will benefit by the diversion of traffic to the westbound Avery Street.

The auto restricted zone expansion option was analyzed in the DPIR and DEIR. The pedestrian volumes expected between Avery Street and Temple Place, however, do not warrant the expansion. The roadway widths are expected to be narrowed, however, to allow wider sidewalks along Washington Street from Temple Place to Avery Street. With the narrowing of Washington Street, the sidewalks will accommodate the future pedestrian volumes. Deliveries and other traffic with destinations to Temple Place, West Street, and Tremont Street between Temple Place and Avery Street would continue to utilize Washington Street to gain access.

Now under discussion with the BRA, the Boston Transportation Department (BTD) and the Public Works Department (PWD) is a revised, partially auto-restricted zone from the Avery Street/Washington Street intersection to Temple Place. Restrictions under consideration include limiting access only for two or three hours around lunch time. Automobiles participating in a sticker program, which would include residents of

Tremont-on-the-Common and local businesses, as well as others by prior arrangement, would be allowed access to Washington Street, West Street, and Temple Place at midday hours. Abutting developers, in conjunction with the Downtown Crossing Association, would provide special facilities and sponsorship for a police detail to direct traffic at the Hayward Place/Avery Street/Washington Street intersection, allowing enforcement of the midday auto restriction, and permitting passage by Tremont-on-the-Common residents and other authorized drivers.

The partially auto-restricted zone described above, if pursued after additional study, will be implemented after further review with Tremont-on-the-Common residents, the Downtown Crossing Association, and other abutting property owners. If the BRA, the BTD, PWD and abutters agree that Washington Street from Temple Place to Avery Street should be closed to automobiles during the midday peak, the proponent will support the proposal.

4.0 TRIP GENERATION AND DISTRIBUTION

4.1 Trip Generation

Trip generation for the revised Boston Crossing development program was calculated using the DPIR and DEIR methodologies. Sources for trip generation rates are ITE Trip Generation, Fourth Edition and the City of Boston "Draft Transportation Access Plan Guidelines".

The trip generation rates and associated parameters described in the DPIR and DEIR were applied to the revised development program and the number of trips by mode was determined. The number of trips associated with the Boston Crossing project for the as-of-right, originally proposed development and the amended proposed development are summarized in Table IV-4.

The difference in the number of trips generated by the amended development program and the DPIR/DEIR development program is approximately 35 fewer trips during the AM peak and about 65 fewer trips during the PM or critical peak during the week. The average daily traffic will decrease by about 7.2 percent or 600 cars. There will however be a minor increase of 22 new trips - 2 in and 20 out during the Saturday peak. The lowest levels of service are expected to occur during the weekday PM peak, when the highest volumes occur. The mitigation proposed at the study area intersections will accommodate the minor additional Saturday volumes.

4.2 Trip Distribution

The methodology used in the DPIR to distribute traffic generated by the Boston Crossing project is based on the overall distribution published in the City of Boston "Draft Transportation Access Plan Guidelines" and has not been changed. Figures IV-5 through IV-7 illustrate the trip distribution to and from the site for the existing and revised roadway networks. It should be noted that the trip distribution from the site for the revised roadway network is the same as the existing roadway network.

TABLE IV-4
TRIPS DUE TO BOSTON CROSSING

As of Right Project*
Office: 1,635,865 sf
Retail: 524,038 sf
Athletic Club: 55,000 sf

Trip Type	Daily Total	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Saturday Peak Hour In	Saturday Peak Hour Out	Saturday Peak Hour Total
Auto	9,452	657	124	781	338	758	1,096	394	369	763
Transit	23,354	2,080	319	2,399	808	2,201	3,009	905	836	1,741
Walk/Other	14,000	355	157	512	510	690	1,200	696	665	1,361

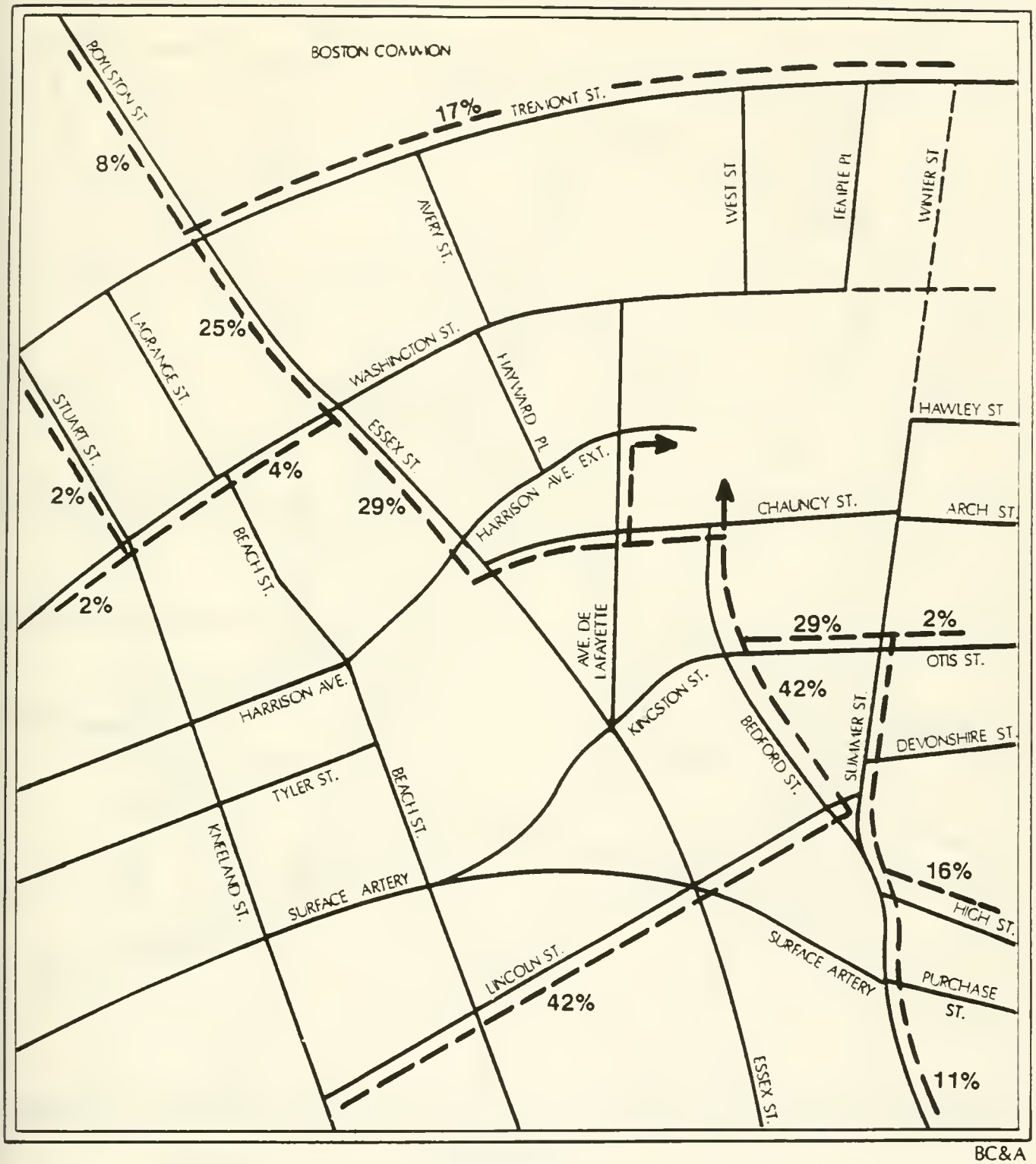
Originally Proposed Project*
Office: 1,449,000 sf
Retail: 480,900 sf
Child Care: 12,000 sf
Athletic Club: 55,000 sf
Gallery/Museum: 10,000 sf

Trip Type	Daily Total	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Saturday Peak Hour In	Saturday Peak Hour Out	Saturday Peak Hour Total
Auto	8,990	610	130	740	332	709	1,041	368	349	717
Transit	22,342	1,953	371	2,324	835	2,083	2,918	830	776	1,606
Walk/Other	13,300	350	166	516	499	667	1,166	659	639	1,298

Amended Development Program*
Office: 1,450,000 sf
Retail: 415,400 sf
Child Care: up to 9,500 sf
Athletic Club: 40,000 sf
Museum: 10,000 sf
Cinema: 45,000 sf

Trip Type	Daily Total	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Saturday Peak Hour In	Saturday Peak Hour Out	Saturday Peak Hour Total
Auto	8,390	585	120	705	303	673	976	370	369	739
Transit	20,964	1,890	341	2,231	763	1,994	2,757	825	801	1,626
Walk/Other	12,098	314	147	461	445	603	1,048	655	670	1,325

* The project areas represent increases from existing conditions only and incorporate the retail vacancies (155.4 ksf) as used in the DPIR and DEIR at the Lafayette Place Mall.



BC&A

FIGURE IV-5
TRIP DISTRIBUTION TO SITE - EXISTING ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

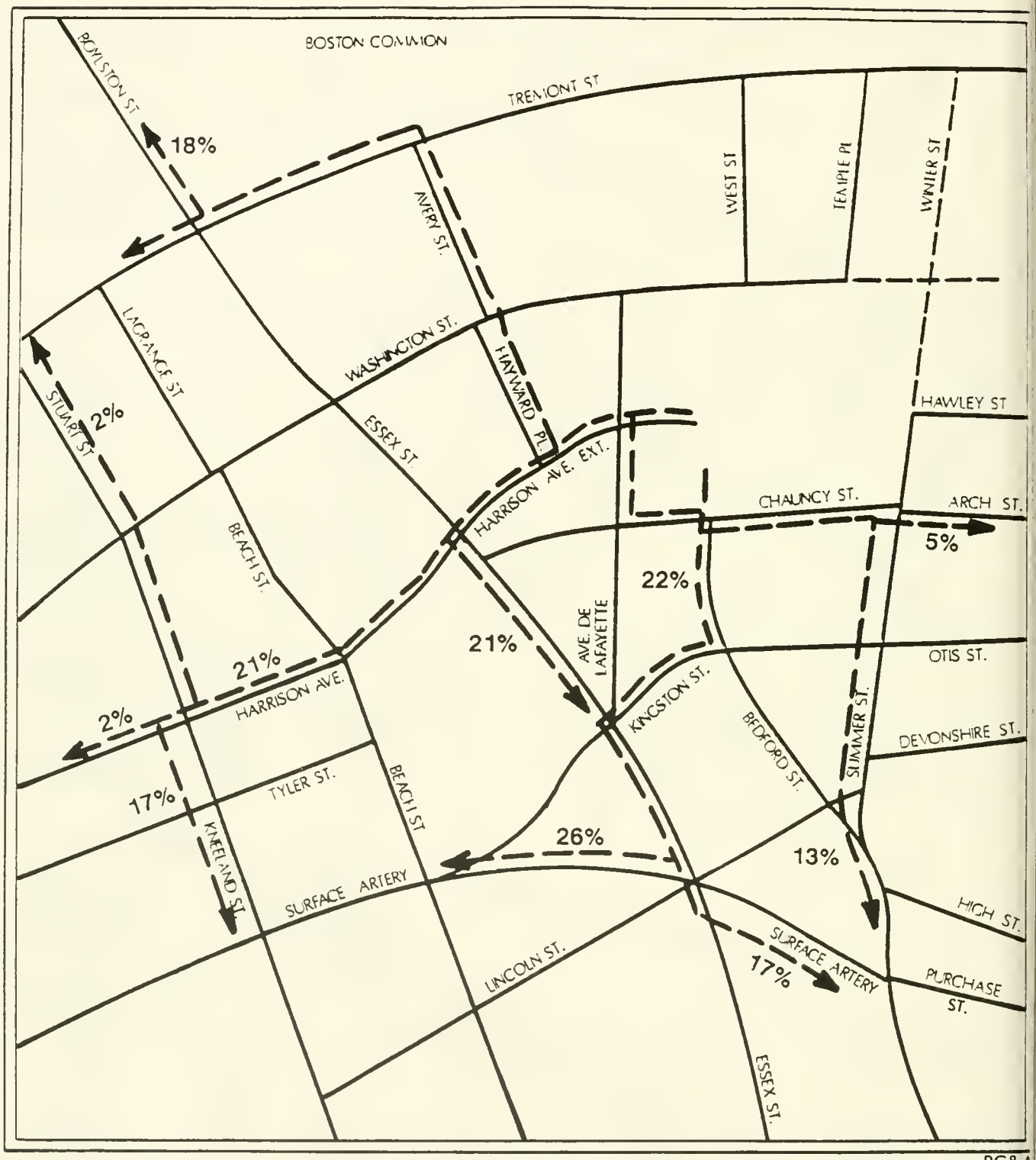


FIGURE IV-6
TRIP DISTRIBUTION FROM SITE - EXISTING ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

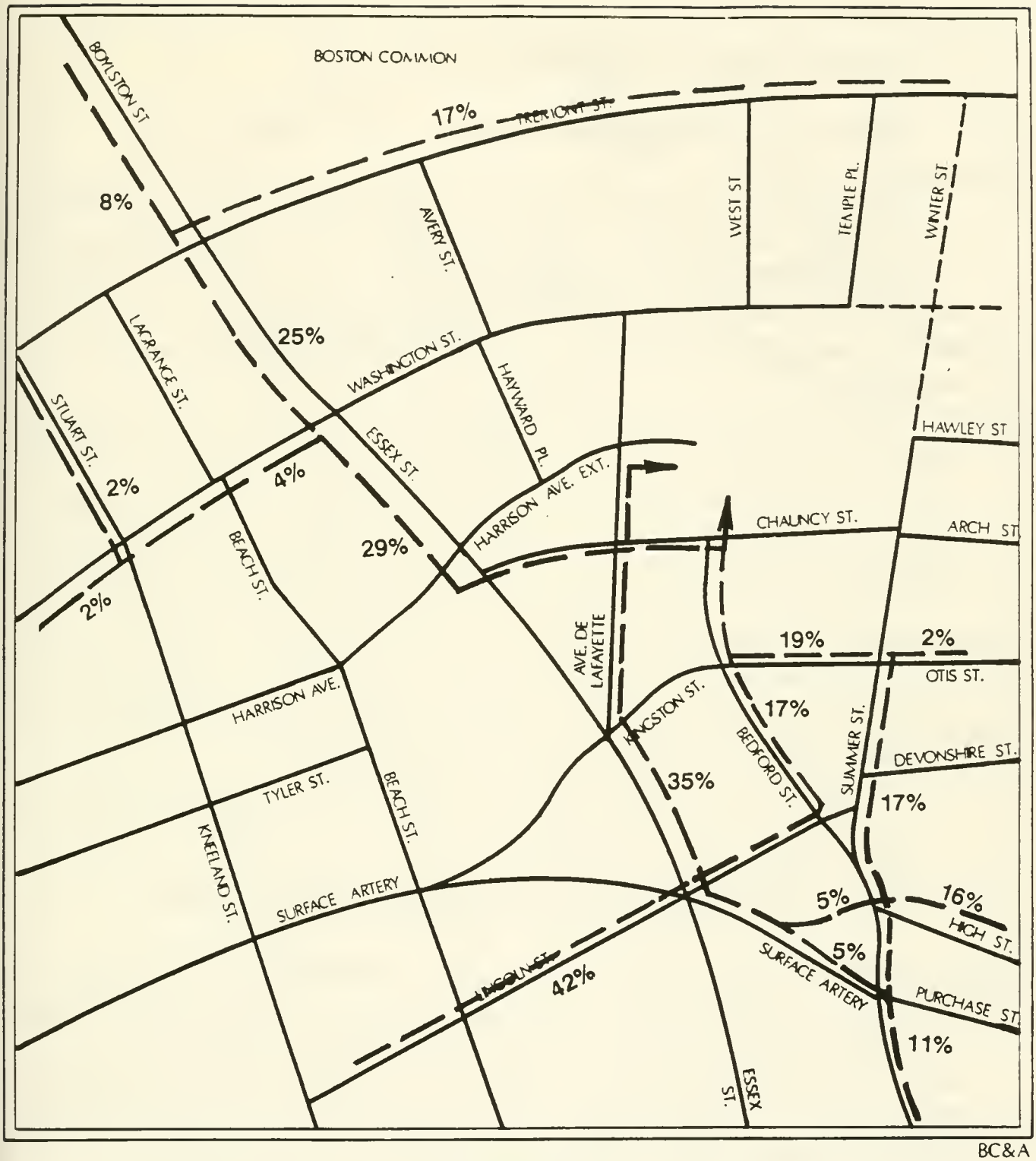


FIGURE IV-7
TRIP DISTRIBUTION TO SITE - REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

5.0 FUTURE VEHICULAR CONDITIONS

5.1 Background Growth and Roadway Revisions

Existing traffic volumes were increased by a background growth factor of 0.5 percent per year and were combined with traffic growth from the 19 other area developments identified in the DPIR and DEIR to determine the 1995 No-Build condition. The 19 other area developments are shown on Figure IV-4. The traffic volumes generated by the Boston Crossing project were added to the 1995 No-Build volumes to attain 1995 Build conditions.

The analyses for the Boston Crossing project were performed for the existing roadway and revised roadway network outlined in the DPIR and DEIR. The existing roadway network, under the 1995 Build condition, assumes the reversal of Hayward Place and Avery Street. Construction of the Boston Crossing project will eliminate Avenue de Lafayette between Harrison Avenue Extension and Washington Street. Therefore under the 1995 Build condition the road reversals are required to maintain the westbound traffic flow that exists today. The terminology "1995 No-Build and Build - Existing Roadway Network" was used to compare traffic operations with and without the proposed Boston Crossing project, and without major revisions to the roadway network (widened two-way Essex Street and closure of Beach Street) and traffic flow patterns.

The construction in the vicinity of Lincoln Street at the Church Green intersection will be completed by 1995, allowing all three approach lanes on Lincoln Street to operate.

5.2 Future 1995 No-Build Traffic Volumes - Existing Network

The methodology used to develop 1995 No-Build volumes at the Kneeland Street/Surface Artery and at the Summer Street/Lincoln Street/Bedford Street (Church Green) intersections is the same as outlined in the DPIR and DEIR, and as described above. The 1995 No-Build volumes at these two intersections are shown in Figure IV-8. The volumes at the other 22 study area intersections are not shown to maintain clarity. They were presented in Figures IV-22 through IV-24 of the Transportation Component, Chapter IV, in the DEIR.

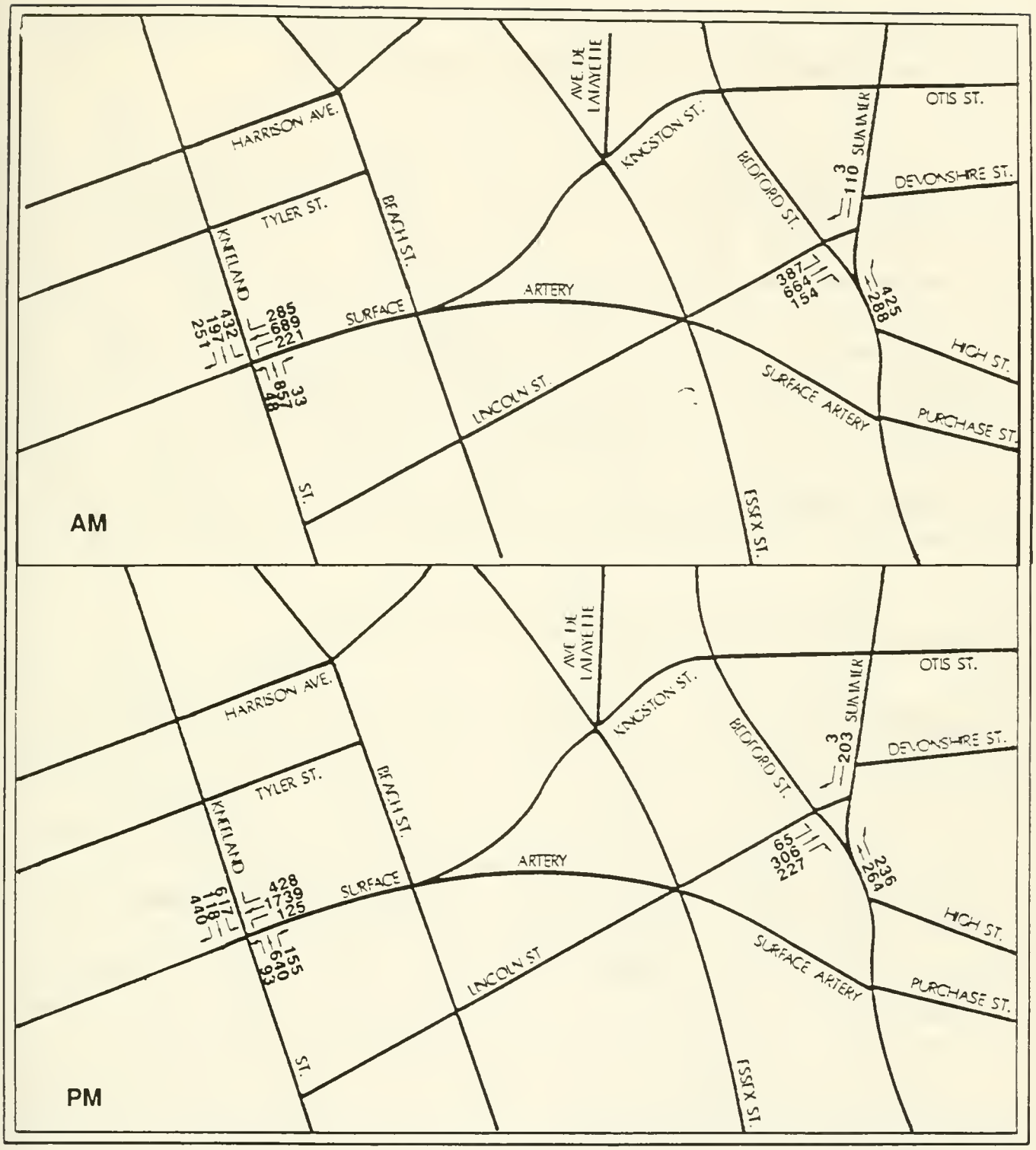


FIGURE IV-8
1995 AM AND PM NO-BUILD TRAFFIC VOLUMES — EXISTING ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

5.3 Future 1995 No-Build Traffic Volumes - Revised Network

The existing peak hour traffic volumes were redirected onto other routes to accommodate the proposed roadway changes. The reassigned traffic volumes were then increased using the background growth rates. Vehicle trips to other developments were also analyzed and redirected onto the revised network. A two-way widened Essex Street could accommodate a greater number of automobiles going to and from background projects than was originally presented in the DPIR and DEIR. Therefore, in addition to traffic that was rerouted onto Essex Street as originally presented in the DPIR and DEIR, 100 more vehicles were rerouted from two existing westbound streets - Kneeland and Summer Streets to Essex Street. Vehicles generated by the Commonwealth Center project and other background development were also redistributed with a greater number of vehicles assigned to Essex Street. The 1995 AM and PM peak hour traffic volumes for the revised roadway network are shown in Figures IV-9 and IV-10, respectively.

5.4 Future 1995 Build Traffic Volumes - Existing Network

Traffic generated by the proposed project was assigned to the existing roadway network based on the trip distribution developed in the DPIR and DEIR, as shown on Figures IV-5 and IV-6 of the FPIR/FEIR. The trip distribution follows the regional trip distribution published in the City of Boston "Draft Transportation Access Plan Guidelines". With the exception of the analysis of the additional intersections (Kneeland Street/Surface Artery and Summer Street/Lincoln Street/Bedford Street), no changes were made to the DPIR and DEIR for the analysis of 1995 existing roadway conditions. The peak hour volumes at these intersections due to Boston Crossing were combined with the 1995 future No-Build traffic volumes and the future 1995 Build volumes were determined. The 1995 Build traffic volumes for the existing roadway network are shown in Figure IV-11. The Saturday peak hour trip generation rates were increased to reflect the amended proposed building program. Intersections evaluated in the DPIR and DEIR for the Saturday peak hour were reevaluated using the new volumes. The new Saturday Build volumes are shown in Figure IV-12.

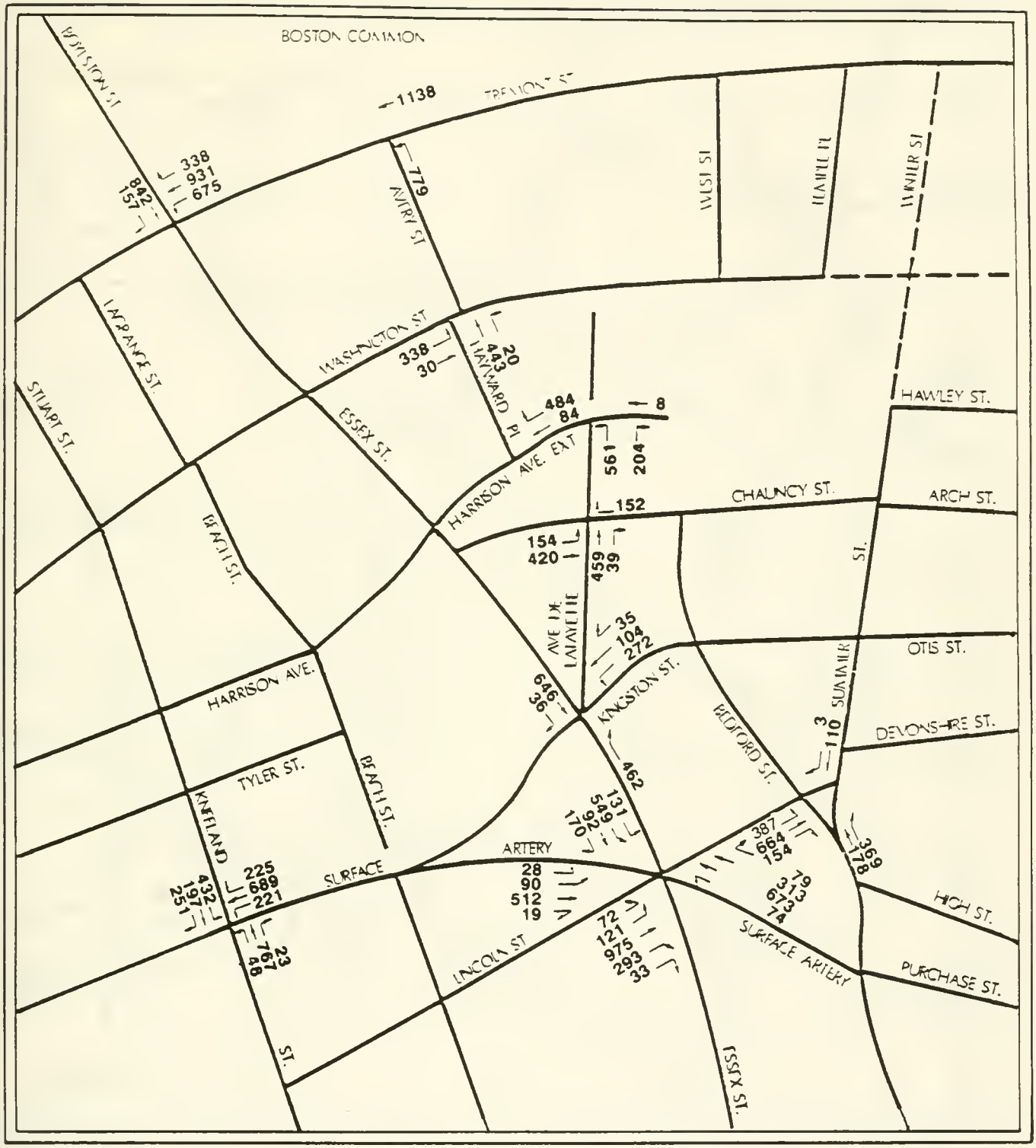


FIGURE IV-9
1995 AM NO-BUILD TRAFFIC VOLUMES — REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

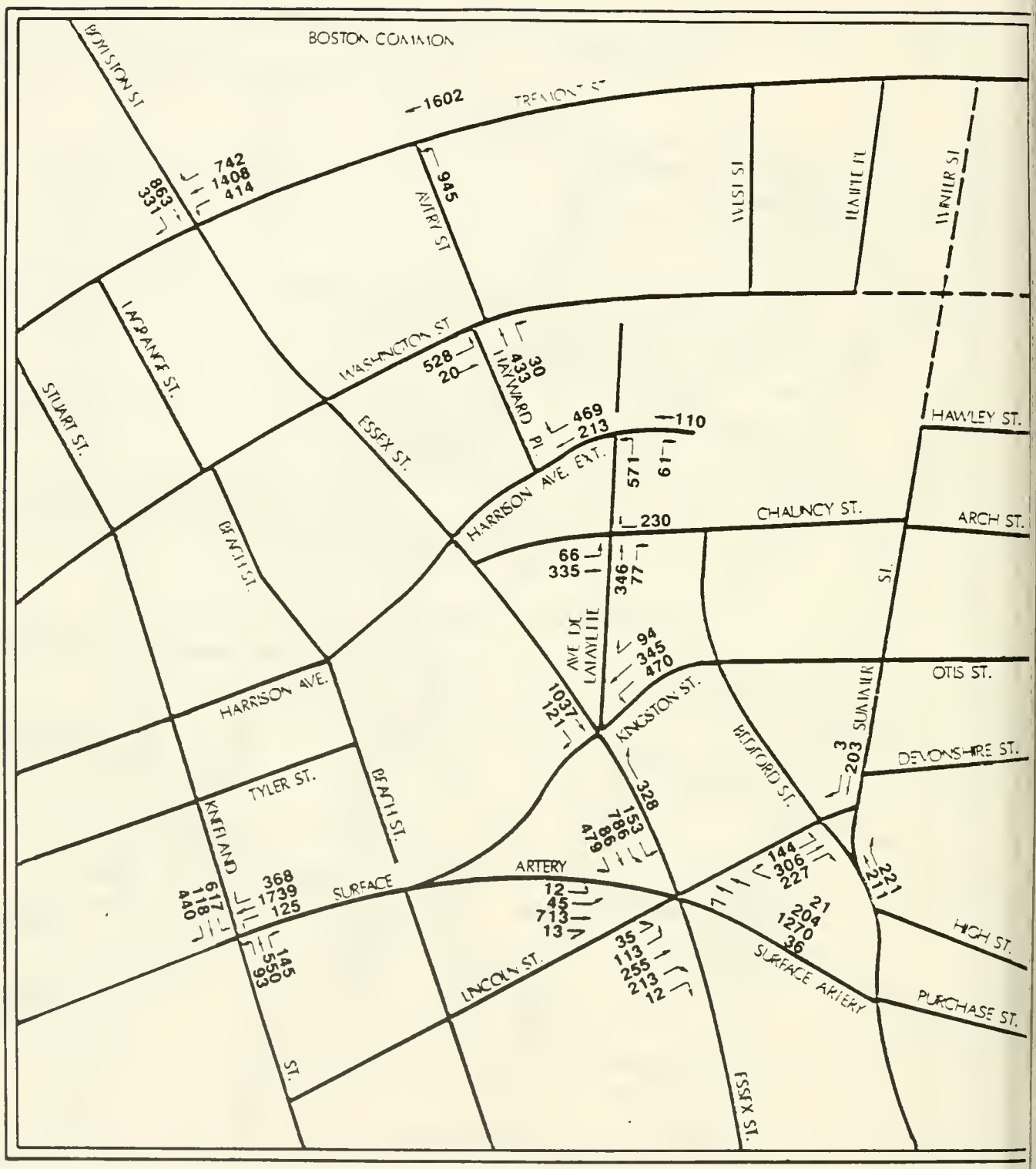


FIGURE IV-10
1995 PM NO-BUILD TRAFFIC VOLUMES — REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

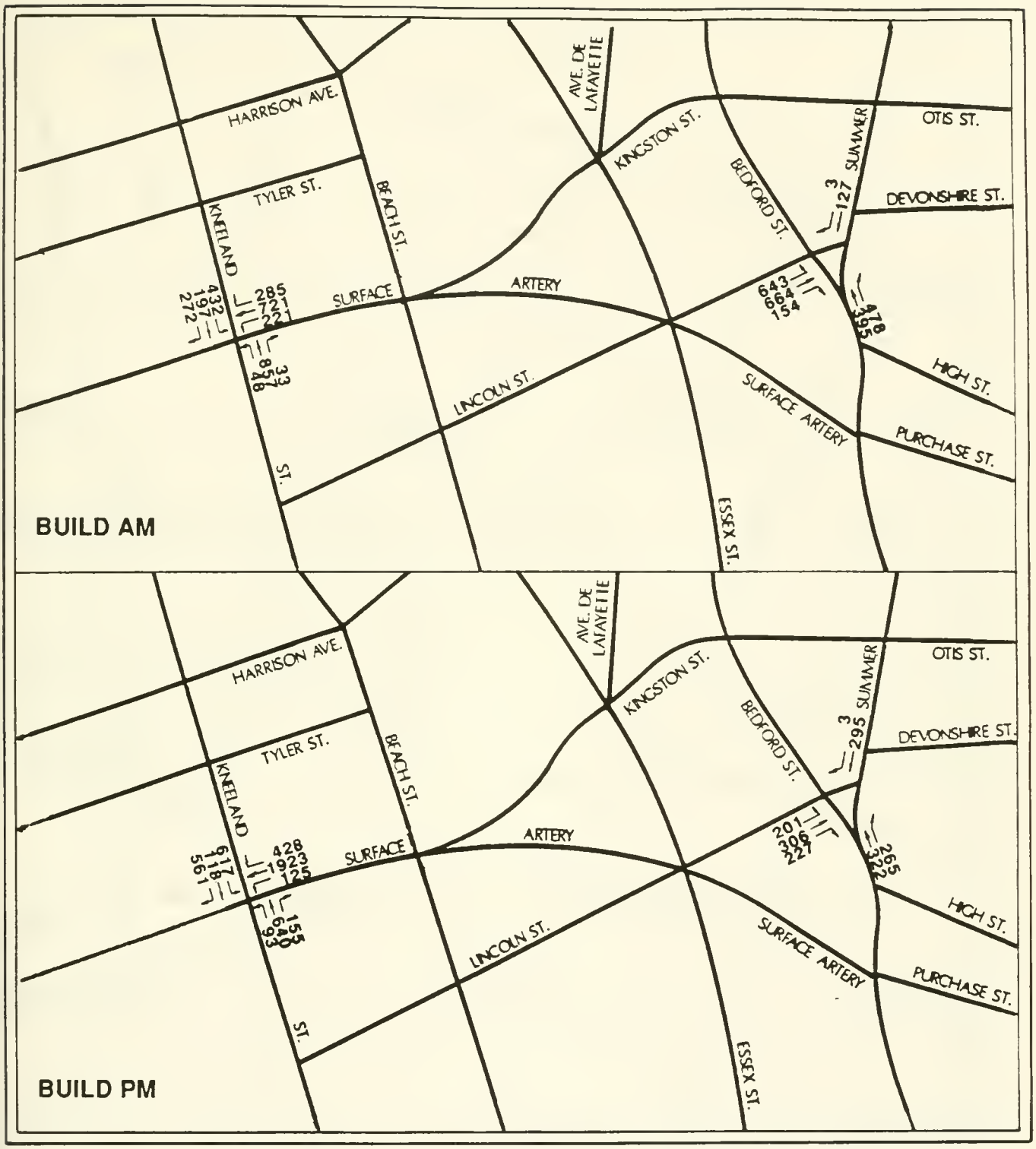


FIGURE IV-11
1995 AM AND PM BUILD TRAFFIC VOLUMES — EXISTING ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

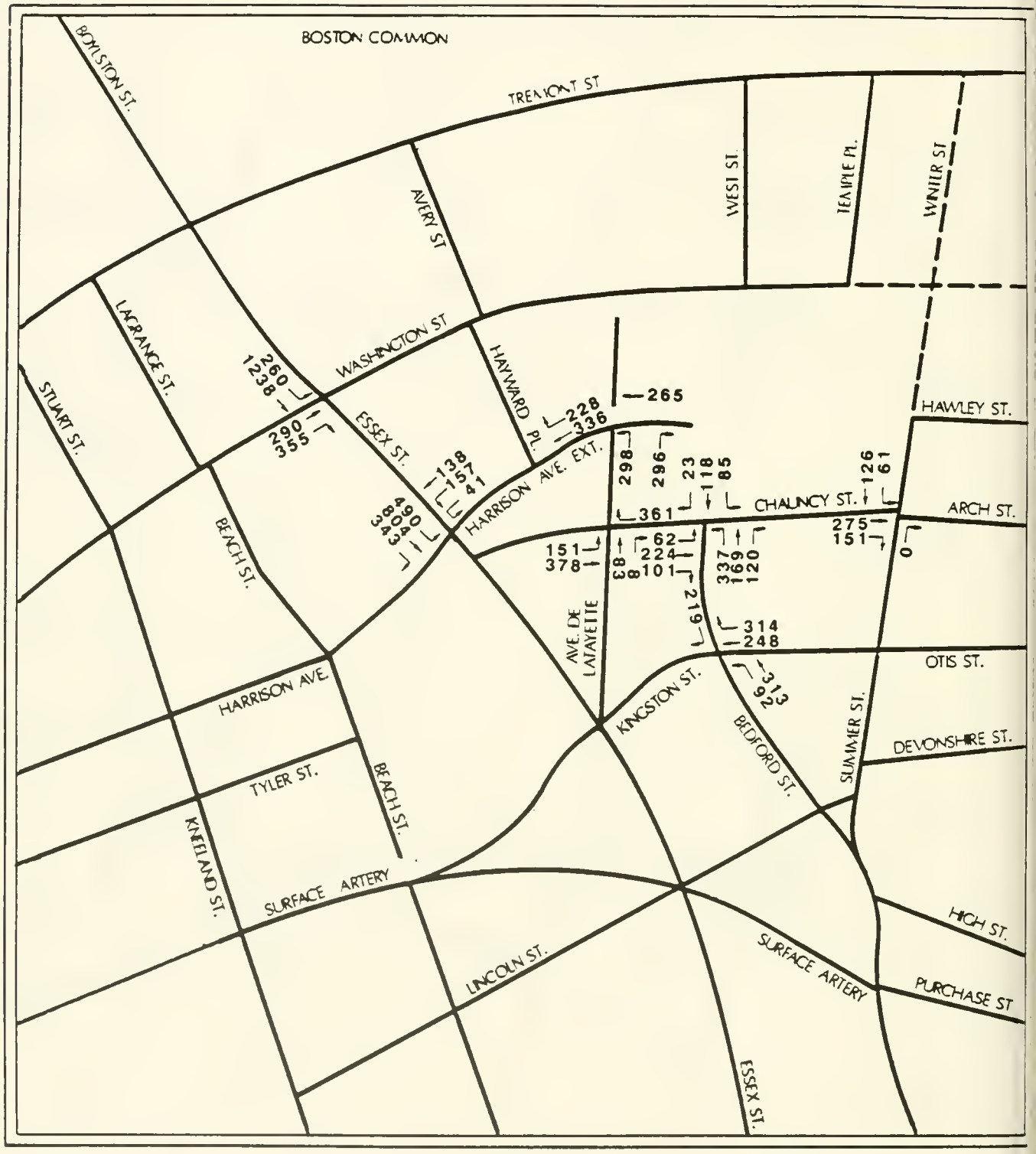


FIGURE IV-12
1995 SATURDAY BUILD TRAFFIC VOLUMES — EXISTING ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

5.5 Future 1995 Build Traffic Volumes - Revised Network

The traffic generated by the proposed project was assigned to the revised roadway network. These volumes were combined with the 1995 future No-Build volumes for the revised network and the future 1995 Build volumes were developed. The 1995 Build traffic volumes for the revised roadway network are shown in Figures IV-13 and IV-14.

The Saturday peak hour traffic volumes were evaluated using the amended program generated volumes combined with the 1995 No-Build volumes. The Saturday peak hour Build volumes are shown in Figure IV-15.

5.6 Traffic Operations for Future No-Build and Build - Existing Roadway Network

Level of service analyses were performed for the two additional intersections (Kneeland Street/Surface Artery, Church Green) for the existing roadway network during the weekday peak hours. Intersections that were analyzed for the Saturday peak hour in the DPIR and DEIR were reanalyzed to reflect the amended program. Since no changes were made in analytical methods presented in the DPIR and DEIR for the existing roadway network, the traffic operations at the 22 intersections analyzed have remained constant. The signal timing at the two additional intersections was optimized, in the DPIR and DEIR, to simulate future conditions. The level of service analyses for the future 1995 No-Build and Build conditions during the weekday AM and PM peak hours and Saturday peak hours are shown in Table IV-5.

5.7 Traffic Operations for Future No-Build and Build - Revised Roadway Network

Traffic operations were also analyzed for the future 1995 No-Build and Build conditions with the revised roadway network. Changes have been made to the DPIR revised network to add traffic volumes to the two-way widened Essex Street. Traffic volumes at eight of the intersections increased, due to the rerouted vehicles onto two-way Essex Street. Only intersections that experience increased traffic volumes were re-analyzed for the revised network. The intersections that experience an increase in traffic volumes are shown in Table IV-6.

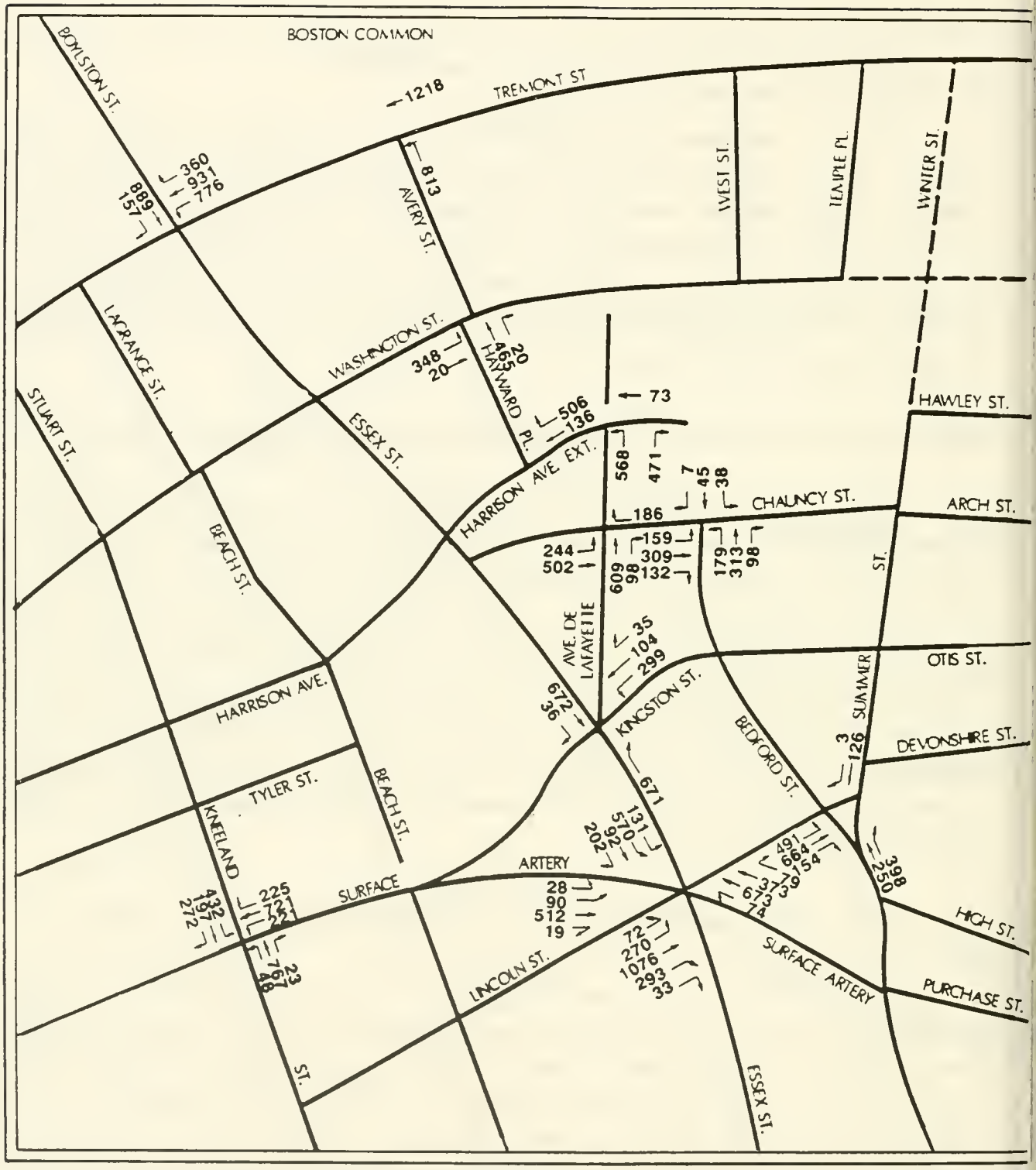


FIGURE IV-13
1995 AM BUILD TRAFFIC VOLUMES — REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

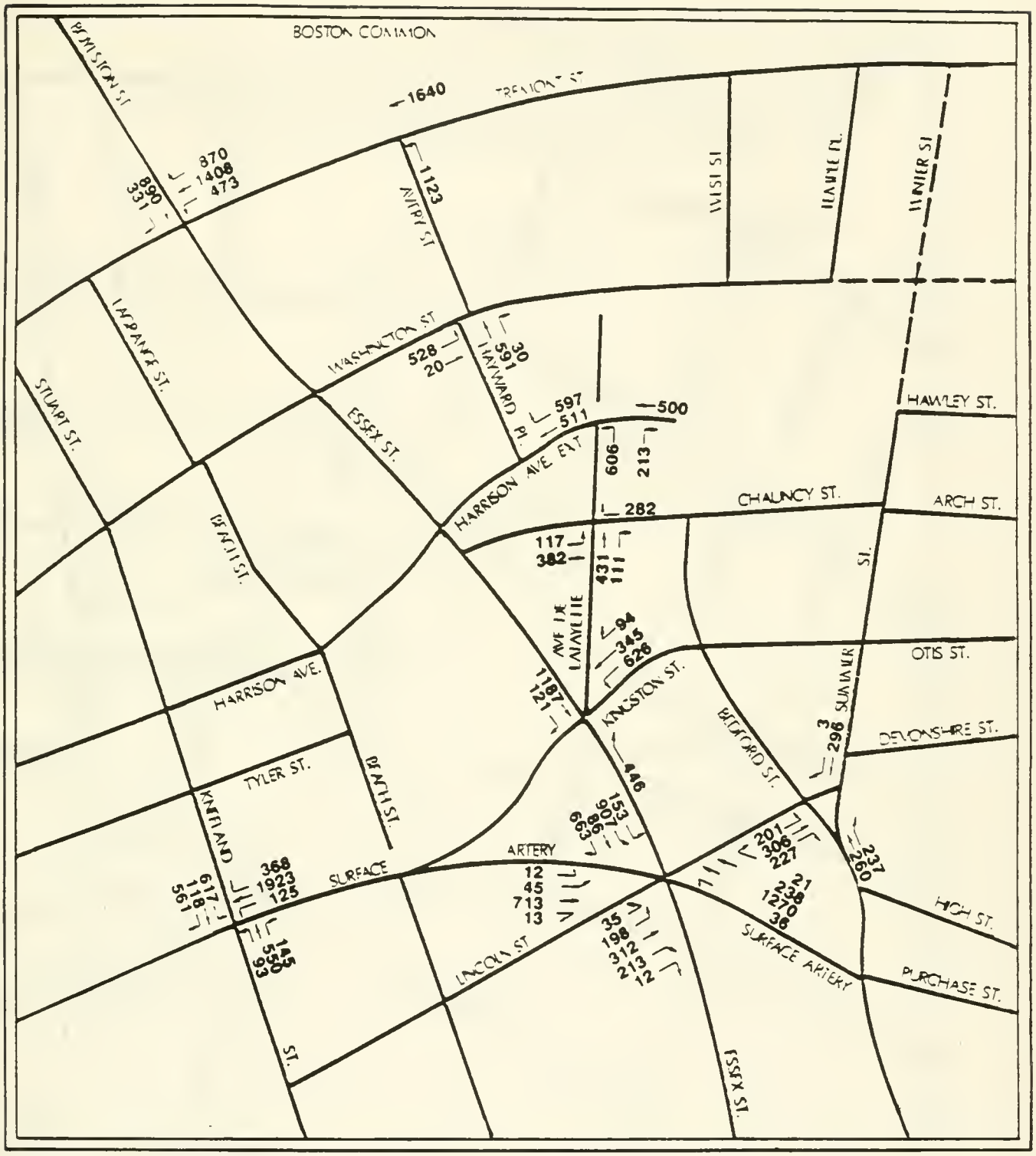


FIGURE IV-14
1995 PM BUILD TRAFFIC VOLUMES — REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

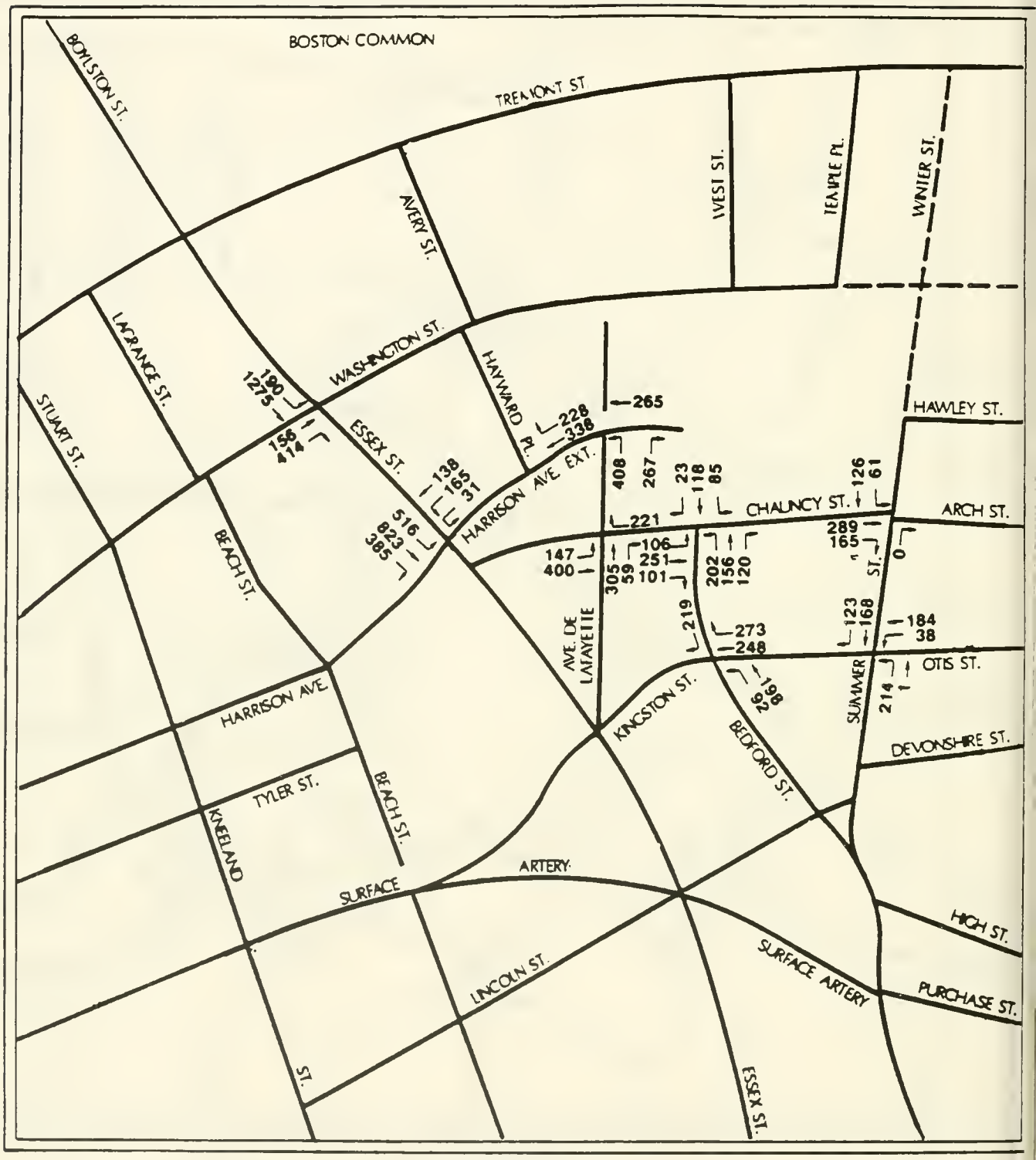


FIGURE IV-15
1995 SATURDAY BUILD TRAFFIC VOLUMES — REVISED ROADWAY NETWORK

BOSTON CROSSING

Not to scale.

TABLE IV-5

1995 NO-BUILD AND BUILD AM, PM AND SATURDAY PEAK HOUR ENTERING VOLUMES AND LEVEL OF SERVICE SUMMARY WITH THE EXISTING ROADWAY NETWORK

Signalized Intersection Location Number & Name	Weekday AM Peak Hour 1995 No-Build Vehicles Entering	LOS	Overall Delay	1995 Build Vehicles Entering	LOS	Overall Delay
23- Kneeland Street/ Surface Artery	3,013	C	20.49	3,066	C	20.60
24- Summer Street/Lincoln Street/Bedford Street	2,031	C	18.62	2,464	D	27.37
	Weekday PM Peak Hour					
	1995 No-Build			**1995 Build**		
23- Kneeland Street/ Surface Artery	4,355	F	66.71	4,660	F	74.30
24- Summer Street/Lincoln Street/Bedford Street	1,304	B	13.20	1,619	C	16.66
	Saturday Peak Hour					
	1995 No-Build			**1995 Build**		
7 - Boylston/Essex Street/ Washington Street	1,878	C	18.90	2,143	D	26.14
15- Chauncy Street/ Avenue de Lafayette	628	B	14.29	981	C	21.00
17- Summer Street/Arch Street/Chauncy Street	541	B	10.18	613	B	13.03
13- Essex Street/Harrison Avenue/Chauncy Street	1,637	F	IMM	1,973	F	IMM
14- Harrison Avenue/ Avenue de Lafayette	578	B	11.44	859	E	34.35
16- Bedford Street/Chauncy Street/Garage	725	C	12.02	1,239	F	IMM
19- Kingston Street/ Bedford Street	814	D	18.86	1,186	F	IMM

IMM: Immeasurable Delay

TABLE IV-6
INTERSECTIONS AFFECTED BY ADDITIONAL RE-ROUTED TRAFFIC ONTO TWO-WAY WIDENED ESSEX STREET

Location Number	Signalized Intersections
3	Tremont Street/Avery Street
4	Tremont Street/Boylston Street
8	Washington Street/Avery Street/Hayward Place
15	Chauncy Street/Avenue de Lafayette
21	Surface Artery/Lincoln Street/Essex Street
18	Kingston Street/Avenue de Lafayette/Essex Street
23	Kneeland Street/Surface Artery
24	Summer Street/Lincoln Street/Bedford Street

Location Number	Unsignalized Intersections
14	Harrison Avenue Extension/Avenue de Lafayette
22	Harrison Avenue Extension/Hayward Place

In addition to affecting the intersections listed in Table IV-6, the removal of background and Commonwealth Center traffic volumes from Kneeland Street and Summer Street will improve a number of intersections along these streets west of the Surface Artery.

The level of service summaries for the future 1995 No-Build and Build conditions with the revised network are shown in Tables IV-7 through IV-9.

The analysis indicates that there are minimal changes in delays with no changes in the projected levels of service between the DPIR and DEIR and those presented in Tables IV-7, IV-8 and IV-9 of the FPIR/FEIR. The additional traffic assigned to a widened two-way Essex Street westbound will not alter levels of service on this route because the additional volumes are added to non-critical movements. Improvements in levels of service will be seen on other westbound streets, primarily Kneeland Street and Summer Street due to reduced traffic volumes on these routes.

5.8 Areawide Traffic Impacts

An areawide study of traffic impacts resulting from the development of the Boston Crossing project was prepared. Six major roadway links were analyzed in the study and are listed in Table IV-10.

Average daily traffic volumes for the Future 1995 Build year were obtained from the Central Transportation Planning Staff (CTPS). Included in the volumes obtained from CTPS is the site-generated traffic from the proposed Boston Crossing, Commonwealth Center and Kingston-Bedford projects. Table IV-11 summarizes the areawide traffic volumes and percentages due to the Boston Crossing project.

As indicated in Table IV-11, the proposed Boston Crossing project is expected to be responsible for less than two percent of the total traffic volumes on roadways entering Boston and, in most cases, less than one percent.

TABLE IV-7
1995 NO-BUILD AND BUILD AM PEAK HOUR ENTERING VOLUMES AND LEVEL OF SERVICE SUMMARY WITH THE REVISED ROADWAY NETWORK

Signalized Intersection Location Number & Name	1995 No-Build Weekday AM Peak Hour Vehicles Entering	LOS	Overall Delay	1995 Build Weekday AM Peak Hour Vehicles Entering	LOS	Overall Delay
3- Tremont Street/ Avery Street	1,917	B	12.98	2,032	B	13.59
4- Tremont Street/ Boylston Street	2,943	F	78.06	3,113	F	> 100
8- Washington Street/ Avery Street/ Hayward Place	831	B	9.90	853	B	9.95
15- Chauncy Street/ Avenue de Lafayette	1,224	C	23.49	1,639	E	52.76
21- Surface Artery/Lincoln Street/Essex Street	4,227	F	87.69	4,588	F	> 100
18- Kingston Street/ Avenue de Lafayette/ Essex Street	1,555	B	8.87	1,817	B	9.24
23- Kneeland Street/ Surface Artery	2,853	C	15.15	2,906	C	19.16
24- Summer Street/Lincoln Street/Bedford Street	1,865	B	13.67	2,086	C	15.85
Unsignalized Intersection Location Number & Name	**Vehicles Entering**	**LOS**	**Overall Delay**	**Vehicles Entering**	**LOS**	**Overall Delay**
14- Harrison Avenue Ext./ Avenue de Lafayette	803	D	34.50	1,114	E	> 100
22- Harrison Avenue Ext./ Hayward Place	Not analyzed, No conflicting movements					

TABLE IV-8
1995 NO-BUILD AND BUILD PM PEAK HOUR ENTERING VOLUMES AND LEVEL OF SERVICE SUMMARY WITH THE REVISED ROADWAY NETWORK

Signalized Intersection Location Number & Name	1995 No-Build Weekday PM Peak Hour Vehicles Entering	LOS	Overall Delay	1995 Build Weekday PM Peak Hour Vehicles Entering	LOS	Overall Delay
3- Tremont Street/ Avery Street	2,547	C	19.64	2,763	D	30.96
4- Tremont Street/ Boylston Street	3,758	F	178.34	3,972	F	> 100
8- Washington Street/Avery Street/Hayward Place	1,011	B	10.43	1,169	B	10.94
15- Chauncy Street/ Avenue de Lafayette	1,054	C	23.06	1,323	D	37.07
21- Surface Artery/Lincoln Street/Essex Street	4,460	F	92.99	4,927	F	> 100
18- Kingston Street/ Avenue de Lafayette/ Essex Street	2,395	C	16.64	2,819	D	31.07
23- Kneeland Street/ Surface Artery	4,195	E	56.46	4,500	F	63.88
24- Summer Street/Lincoln Street/Bedford Street	1,315	B	12.00	1,530	B	14.90
Unsignalized Intersection Location Number & Name	**Vehicles Entering**	**LOS**	**Overall Delay**	**Vehicles Entering**	**LOS**	**Overall Delay**
14- Harrison Avenue Ext./ Avenue de Lafayette	742	E	59.37	1,319	F	IMM

IMM: Immeasurable Delay

TABLE IV-9
1995 NO-BUILD AND BUILD SATURDAY PEAK HOUR ENTERING VOLUMES AND LEVEL OF SERVICE SUMMARY WITH THE REVISED ROADWAY NETWORK

Intersection Location Number & Name	1995 No-Build Saturday Peak Hour Vehicles Entering	LOS	Overall Delay	1995 Build Saturday Peak Hour Vehicles Entering	LOS	Overall Delay
7- Boylston Street/Essex/ Washington Street	1,918	C	21.82	2,035	D	28.36
15- Chauncy Street/ Avenue de Lafayette	628	C	16.79	1,132	C	23.62
17- Summer Street/Arch Street/Chauncy Street	541	B	11.00	641	B	14.55
13- Essex Street/ Harrison Avenue/ Chauncy Street	1,775	F	IMM	2,058	F	IMM
14- Harrison Ave/ Ave de Lafayette	524	C	14.26	940	F	IMM
16- Bedford Street/ Chauncy Street/Garage	734	C	17.83	1,162	F	IMM
19- Kingston Street/ Bedford Street	802	C	17.83	1,031	E	> 100

IMM: Immeasurable Delay

TABLE IV-10
ROADWAY SEGMENTS ANALYZED

Roadway	Location
Route 1	Tobin Bridge
Interstate 93	North of Route 1
Storrow Drive	East of Massachusetts Avenue
Interstate 90 (Mass Turnpike)	East of Beacon Park
Southeast Expressway	South of Columbia Road
Route 1A	At Revere City Line

TABLE IV-11

AREAWIDE TRAFFIC VOLUMES DUE TO BOSTON CROSSING

Roadway Segment	Average Daily Traffic (ADT)	Boston Crossing Traffic Using Roadway Segment Percent*	Vehicle Trips	Percent due to Boston Crossing
Route 1		10 %	420	0.7 %
Northbound	60,700	10 %	420	0.8 %
Southbound	55,500			
Interstate 93		13 %	545	0.9 %
Northbound	63,600	13 %	545	0.8 %
Southbound	66,900			
Storrow Drive		10 %	420	0.7 %
Eastbound	62,200	10 %	420	0.8 %
Westbound	56,300			
Interstate I-90		20 %	839	1.2 %
Eastbound	67,400	20 %	839	1.3 %
Westbound	65,200			
Southeast Expressway		39 %	1,636	1.7 %
		39 %	1,636	1.7 %
Eastbound	95,500			
Westbound	95,800			
Route 1A		4 %	168	0.6 %
Northbound	27,400	4 %	168	0.6 %
Southbound	28,000			

* 41% of traffic accessing Boston Crossing will come from Boston Proper.

6.0 IMPACTS TO OTHER TRANSPORTATION INFRASTRUCTURE

6.1 Public Transportation

Numerous improvements to the MBTA system have recently been completed, are in the process of being improved or are in the planning stage. These improvements, outlined below, will further enhance the attractiveness and increase the capacity of public transit. Better use of public transit can be attained by "peak spreading" which can be accomplished by staggered work hours and flex time. As indicated in the DPIR and DEIR, the cumulative effect of the planned background development and the proposed Boston Crossing project on transit ridership does not exceed the capacity of the public transit system.

The Green Line branches are the lines most crowded and most in need of additional capacity. To address this issue, the MBTA has assigned three-car trains on the Riverside Green Line branch and two-car trains to the Cleveland Circle, Boston College, and Arborway Green Line branches during the peak hours, replacing a number of two- and one-car trains. The MBTA is planning to upgrade power on these lines to accommodate the increased train size and number. The volume to capacity (V/C) ratios will decline as capacity is increased.

Transit usage is economically more efficient than automobiles for commuting and for most business and shopping trips. Transit usage requires less expenditure of resources per passenger mile and results in a reduction in air pollution, roadway congestion, and parking demand. Because of these benefits and benefits to transit users, an improved transit system is important to the Central Business District (CBD). Increased use allows more of the costs of the system to be recovered through fare collection, reducing the public subsidy required. Hence, it is important for downtown employers to promote transit use with subsidized fare pass programs, promotional efforts, and staggered work hours.

Future Conditions

As described above, numerous improvements to the MBTA system have recently been completed, are in process or are planned for the future that have enhanced and will further enhance the attractiveness and capacity of public transportation. Following is a list of improvements.

- Platform lengthening on the Red and Orange Lines allows six-car trains rather than four-car trains, increasing capacity by 33%. Similar platform lengthening for the Blue Line is now under study.

- Track and signal improvements are in progress to increase operating efficiencies and safety on all rail transit lines.

- Station modernization is nearing completion for all downtown stations making them more visually inviting and comfortable.

- Track replacement and renewal is underway on all rail transit lines as equipment levels increase.

- South Station is being reconstructed as a major multi-modal transportation center that will eventually accommodate commuter rail, AMTRAK, MBTA, and private commuter and interstate buses.

- North Station will be rebuilt, and the platform capacity will be improved and enlarged as construction of the new Boston Garden arena occurs above the station.

- Commuter rail lines are being extended; most recently to a new parking facility at Forge Park off Route 495 in Franklin. Additional parking facilities at commuter rail stations are under development or study. Also being planned is the restoration of the Old Colony commuter rail system on the South Shore, which was once one of the most heavily patronized set of commuter rail lines.

The MBTA system's capacity will continue to grow over the next decade as the improvements described and similar improvements come on-line. Operational changes such as longer trains and reduced headways (more trains per hour) can also be implemented to further improve capacity. Better use of existing capacity can be made by "peak spreading". Options include the use of staggered working hours and flex-time to avoid overcrowding platforms and cars up to "crush load" conditions. Often, the "crush load" capacity is caused by sharp spikes in demand due to common quitting and closing times in offices and stores.

The number of transit trips was based on modal splits determined by the BTD. The transit trips were computed for both background growth and the Boston Crossing project. Table IV-12 shows the total peak hour transit trips expected to be generated by background development and by the proposed Boston Crossing project. Table IV-13 estimates the number of riders using each mode of public transportation and each rapid transit line. The percentages using each form of public transportation were based on previous studies that determined the percent of downtown transit users by mode (train or bus), line and direction. The weekday and Saturday peak hour projections were utilized to determine horizon year demand for comparison with available capacity.

Tables IV-14 and IV-15 reflect the existing and projected future rail transit ridership based on estimates of: (1) ridership generated by background development, including the presently planned developments other than Boston Crossing (the No-Build condition); and (2) the background developments plus the ridership estimated resulting from the Boston Crossing project when completed and operational (the Build condition).

The volume to capacity ratios in Tables IV-14 and IV-15 apply to the points on each rail transit system line where MBTA studies have shown maximum loadings. The existing and projected future volumes were compared with capacities determined earlier, and the volume/capacity ratios were calculated.

The tables indicate that the cumulative effect of the planned background development and the proposed Boston Crossing project on transit ridership does not exceed capacity. The weekday volume to capacity (V/C) ratios under the Build condition on the various lines range from a low of .43 on the Red Line northbound to a high of .96 on the Brigham Circle Green Line outbound. The Green Line branches clearly are the lines most crowded and most in need of added capacity. To address the problem, the MBTA has recently begun to assign three-car trains to Green Line branches that experience the highest V/C ratios in the peak hour.

These ratios will decline in the 1990's as the MBTA increases capacities on all lines. The Red and Orange Lines can now operate with six-car rather than four-car trains due to a program of platform lengthening. A similar program is now under study by the MBTA to lengthen platforms on the Blue Line so that it, too, can accommodate six-car trains. The Green Line branches which have been operating with one- and two-car trains, are beginning to use two- and three-car trains as the Green Line fleet grows and operations

TABLE IV-12
BACKGROUND DEVELOPMENT AND BOSTON CROSSING TRANSIT TRIP GENERATION

A. BACKGROUND DEVELOPMENT

Other Projects	Weekday Peak (PM)	Saturday Peak
1. 110-120 Tremont Street	420	77
2. Pavilion at Park Square	158	61
3. The Parkside Projects	34	60
4. 90 Tremont Street	286	78
5. Parcel R3-R3A	31	57
6. One Bowdoin Square	185	31
7. 64-74 Franklin Street	124	22
8. Forty Franklin Street	530	78
9. 146 Boylston Street	24	28
10. 73 Tremont Street	345	64
11. 45 Province Street	236	37
12. 125 Summer Street	501	88
13. Parcel C-2	56	64
14. 295 Devonshire	34	3
15. Don Bosco	110	47
16. Commonwealth Center	1,685	551
17. Kingston Bedford	980	202
TOTAL BACKGROUND DEVELOPMENT	5,739	1,548
B. BOSTON CROSSING	1,994	825
TOTAL BUILD	7,733	2,373

TABLE IV-13
BACKGROUND DEVELOPMENT AND BOSTON CROSSING
PEAK HOUR TRIPS BY MODE, LINE, AND DIRECTION

Mode or Line	Percent	BACKGROUND DEVELOPMENT PM Peak	BACKGROUND DEVELOPMENT Saturday Peak	BOSTON CROSSING PM Peak	BOSTON CROSSING Saturday Peak
Red - north	16	918	248	319	132
Red - south	18	1,033	278	359	148
Orange - north	8	459	124	160	66
Orange - south	11	631	170	219	91
Blue - north	10	574	155	199	83
Green - west	16	918	248	319	132
Green - east	2	115	31	40	16
Commuter Rail - north	4	230	62	79	33
Commuter Rail - south	5	287	77	100	42
Local Bus	8	459	124	160	66
Express Bus	2	115	31	40	16
TOTALS		5,739	1,548	1,994	825

SOURCES Percent distribution of riders by mode, line, direction: Howard/Stein-Hudson Associates, Kingston-Bedford-Essex DEIS, January 1989, pp. 42 and 43.

(2) Transit ridership: BC&A projections.

TABLE IV-14

RAIL TRANSIT RIDERSHIP - WEEKDAY PM PEAK

Line/Station	Route	Peak Hour Ridership: Existing Volume	V/C*	1995 No-Build Volume	V/C*	1995 Build Volume	V/C*
RED LINE							
Andrew Station	Alewife-Ashmont	5,400	.61	5,830	.66	5,990	.68
Andrew Station	Alewife-Braintree	7,350	.58	7,950	.62	8,170	.64
Charles Station	Ashmont/Braintree-Alewife	7,990**	.37	8,910	.41	9,240	.43
GREEN LINE							
Arlington Station	Government Center-Boston College	2,630**	.77	2,870	.84	2,960	.87
Arlington Station	North Station-Cleveland Circle	3,000**	.78	3,270	.86	3,370	.89
Arlington Station	Government Center-Riverside	3,100**	.79	3,380	.86	3,480	.89
Arlington Station	Lechmere-Brigham Circle	1,550**	.84	1,690	.92	1,740	.96
Science Park	Brigham Circle-Lechmere	1,380**	.75	1,490	.81	1,530	.83
ORANGE LINE							
Back Bay Station	Oak Grove-Forest Hills	7,650	.52	8,280	.57	8,510	.58
Haymarket Station	Forest Hills-Oak Grove	8,900	.61	9,360	.64	9,530	.65
BLUE LINE							
Maverick Station	Bowdoin-Wonderland	6,250	.67	6,820	.73	7,030	.76

SOURCES:
(1) MBTA, Ridership and Service Statistics, October 1988, p. 2-8.
(2) Vanasse/Hangen Associates, International Place FEIS, October 1984, Table 5.2.3.
(3) BC&A projections.

* V/C - Volume/Capacity Ratio in which "V" represents peak hour passenger volume and "C" measures capacity. As the V/C Ratio approaches 1.0 the higher the ca loadings, the greater degree of passenger crowding and the more likely that, in pea hour, trains may sporadically operate at capacity leaving some would-be passengers t board a following train.

** No current counts. Estimates based on ridership trend since 1984 counts.

TABLE IV-15

RAIL TRANSIT RIDERSHIP - SATURDAY PEAK

Line/Station	Route	Peak Hour Ridership: Existing Volume	V/C*	1995 No-Build Volume	V/C*	1995 Build Volume	V/C*
RED LINE							
Andrew Station	Alewife-Ashmont	2,160	.60	2,280	.63	2,340	.65
Andrew Station	Alewife-Braintree	2,940	.57	3,100	.60	3,190	.62
Charles Station	Ashmont/Braintree-Alewife	3,200	.36	3,450	.39	3,580	.41
GREEN LINE							
Arlington Station	Government Center-Boston College	1,050	.62	1,110	.65	1,140	.67
Arlington Station	North Station-Cleveland Circle	1,200	.32	1,270	.67	1,310	.69
Arlington Station	Government Center-Riverside	1,240	.63	1,310	.67	1,350	.69
Arlington Station	Lechmere-Brigham Circle	620	.67	660	.72	680	.74
Science Park	Brigham Circle-Lechmere	560	.60	563	.63	600	.65
ORANGE LINE							
Back Bay Station	Oak Grove-Forest Hills	3,060	.49	3,230	.51	3,320	.53
Haymarket Station	Forest Hills-Oak Grove	3,560	.57	3,680	.58	3,750	.60
BLUE LINE							
Maverick Station	Bowdoin-Wonderland	2,500	.45	2,660	.48	2,740	.49

SOURCES:
(1) MBTA. Ridership and Service Statistics, October 1988, p. 2-8.
(2) Vanasse/Hangen Associates, International Place FEIS, October 1984, Table 5.2.3.
(3) BC&A projections.

* V/C - Volume/Capacity Ratio in which "V" represents peak hour passenger volumes and "C" measures capacity. As the V/C Ratio approaches 1.0 the higher the car loadings, the greater degree of passenger crowding and the more likely that, in peak hour, trains may sporadically operate at capacity leaving some would-be passengers to board a following train.

are modified to respond to peak demand. Table IV-16 indicates the estimates of peak hour capacities of the various lines if all trains on all lines were operated with the maximum possible number of cars at current frequencies. The estimates assume "design" load car capacities and lengthening of the Blue Line platforms.

Mitigation Measures

The impact of peak hour ridership generated by the proposed Boston Crossing project can be reduced in a variety of ways.

Capacity Increases

As discussed previously, the MBTA is implementing a variety of measures to increase the capacity of its subway lines such as platform lengthening to accommodate longer trains; fleet enlargement to allow all trains operating in the peak demand periods to be full length; track, signal and equipment improvements to increase reliability, equipment availability and, possibly, to reduce headways. The reduction of headways allows more trains and cars to operate in a given time period. As Table IV-16 shows, there is latent potential capacity in the system that can be realized by station improvements, fleet expansion and operational changes.

Peak Spreading

The impression that the subway system is reaching capacity results from trains in the peak of the peak hour filling to crush load capacity. The peaking periods last less than an hour with trains operating with ample standee room for the balance of the peak hour. To alleviate the peaking problem, downtown employers and store operators should be encouraged to adopt staggered operating hours or flex-time employee arrival and departure arrangements to spread demand more evenly over the peak hour. This would reduce the "crush" load peaking problem while better utilizing surplus capacity in the remainder of the peak hour.

TABLE IV-16
ESTIMATED FUTURE PEAK CAPACITY
OF RAPID TRANSIT LINES

	MBTA LINE			
	RED	ORANGE	GREEN	BLUE
Cars per Train	6	6	3	6
Headway (Minutes)	3	4	1.5	4
Trains per Hour	20	15	40	15
Cars per Hour	120	90	120	90
Design Capacity per Car	180	155	165	110
Future Capacity per Hour	21,600	13,950	19,800	9,900
Existing Capacity per Hour	15,840	11,470	11,880	6,600
Capacity Increase per Hour	5,160	2,480	7,920	3,300
Percent Increase	37%	22%	66%	50%

6.2 Impacts of Street Closures on Pedestrian Circulation

The BRA Preliminary Adequacy Determination required analysis of the following two street closings which have been proposed in conjunction with Boston Crossing:

- o Avenue de Lafayette between Harrison Avenue and Washington Street to accommodate the proposed project; and

- o Washington Street from the existing pedestrian zone at Temple Place to Avery Street.

The analysis indicates that the proposed closure of Avenue de Lafayette can be accommodated with minor impacts on pedestrian flows, if pedestrian access along the path taken by the present street is included in the project. While the Avenue de Lafayette segment is not the busiest in the study area, it is used by approximately 2,000 pedestrians during the midday peak period and 1,000 during the PM peak period to travel between Washington Street and Chauncy Street. Because new developments such as 99 Summer Street and One Lincoln Street will increase employment and, therefore, pedestrian traffic, east of Boston Crossing, it is important to keep east-west paths to the retail district and transit stations open.

The extension of the Washington Street pedestrian zone to Avery Street is not warranted solely by the current pedestrian volumes. Volumes in this segment of Washington Street are much lower than those in the Downtown Crossing area, due to the lower employment density and the lower density of retail storefronts on these blocks. Extension of the pedestrian area is not necessary to accommodate pedestrian flows. Implementation of Boston Crossing and Commonwealth Center however, will greatly increase pedestrian traffic in this lower section of Washington Street, both by adding employment and by adding new retail attractions. With these added attractions and thus added pedestrians, there will be a need to increase sidewalk widths. The roadway widths are expected to be narrowed, however, to allow wider sidewalks along Washington Street from Temple Place to Avery Street. If the BRA, BTD, PWD, and abutters wish to utilize Washington Street as an exclusive pedestrian zone during the midday peak, which is the period with the highest pedestrian volumes, the Boston Crossing proponent will support the proposal.

6.3 Parking Supply and Demand Impacts

As stated in Section 2.4, the existing parking supply in the study area includes 10,410 parking spaces of which 83.8% are open to the public and the remaining 16.2% are private. Garage spaces account for 89.5% of the existing supply, lot spaces account for the remaining 10.5%. The Boston Crossing site contains 1,024 garage spaces and 125 lot spaces. The garage spaces will remain as part of the proposed project, the lot will be displaced by the new building. Peak occupancy at the Lafayette Place Garage, as surveyed in April 1988, was 82% of capacity, a garage management strategy designed to assure spaces will be available for shoppers.

To forecast future 1995 No-Build parking supply and demand, the parking demand was estimated for the future 1995 No-Build year and compared to net additional parking supply to be provided in conjunction with new projects as shown in Table IV-17. The calculations in the DPIR and DEIR were based on general area-wide trip information, the new calculations differ because specific development trip information was utilized. The new calculations yielded an overall deficit of 146 spaces within the study area for 1995, excluding the Boston Crossing project.

The methodologies used for the Boston Crossing parking demand have not been changed from the DPIR and DEIR. Turnover rates, used in the DPIR and DEIR, remained constant. Future parking demand for the proposed project compared to parking supply is shown in Table IV-18.

The overall parking demand for the Boston Crossing project is summarized below.

o	Parking Demand for Proposed Project	2,244
o	Proposed Supply	
	Available Parking at Lafayette Garage	190
	Proposed New Parking	1,000
	Total	1,190
o	Surplus (Deficit)	(1,054)

The 1,054 parking space deficit of spaces at the Boston Crossing site, combined with the 1995 study area deficit of 146 spaces, results in a total deficit of 1,200 spaces due to new projects. The shortfall can be met either through expanding on-site parking or by pricing and management measures to reduce demand. The deficit will reduce demand and provide a balance in the goal of providing parking spaces, and in discouraging auto use.

TABLE IV-17

REVISED PARKING DEMAND FOR OTHER DEVELOPMENT

BASE YEAR DEVELOPMENT

Development	Non-Residential Vehicle Round Trips			Net New Parking Demand				Parking Spaces Provided	Surplus (Deficit)
	Work	Non-work	Total	Work	Non-work	Resid.	Total		
110 Tremont Street	300	247	547	300	93		393	275	(118)
Pavilion	108	170	278	108	64	83	255	265	10
The Parkside Projects	5	32	37	5	12	170	187	173	(14)
90 Tremont Street	189	320	509	189	120		309		(309)
64-74 Franklin Street	99	91	190	99	34		133		(133)
40 Franklin Street	369	208	577	369	78		447	77	(370)
146 Boylston Street	14	88	102	14	33	29	76	69	(70)
45 Province Street	156	177	333	156	66		222	73	(149)
125 Summer Street	352	264	616	352	99		451	300	(151)
295 Devonshire Street	31	18	49	31	7		38		(38)
600 Washington St. Garage							0	350	350
Post Office Square Garage							0	1,400	1,400
One Lincoln Street	635	513	1,148	635	187		822	911	89
Commonwealth Center	952	1,697	2,649	952	636		1,588	880	(708)
Total Study Area	3,210	3,825	7,035	3,210	1,427	282	4,919	4,773	(146)

TABLE IV-18

PARKING DEMAND FOR BOSTON CROSSING

Land Use	Work Round Trips	Parking Demand	Non-Work Round Trips	Turnover Rate	Peak Parking Demand	Total Parking Demand
Office	951	951	537	2.67	201	1,152
Retail	303	303	1,786	3.00	595	898
Child Care	5	5	85	*	3	8
Health Club	4	4	327	3.00	109	113
Museum	1	1	19	3.00	6	7
Theatre	10	10	167	3.00	56	66
TOTAL	1,274	1,274	2,921		970	2,244

---

* The child care space provided by the project proponent is intended to be used by children of project employees. If the child care center is not fully occupied by children of project employees, then the space will be available for neighborhood residents.

For the child care center, non-work parking which is anticipated to be minimal is only needed for pick-up and drop-off of children. Since duration of these stops is quite short, a drop-off area allowing short-term parking would serve the center's needs. Resulting parking demand for child care non-work trips is three spaces.

7.0 CONSTRUCTION IMPACTS

7.1 Staging Area on Washington Street

As described in the Draft Project Impact Report and Draft Environmental Impact Report, a portion of the Washington Street auto restricted zone will be occupied during the evening while the steel is being raised. At least one lane of Washington Street, however, will remain open throughout construction, allowing service to West Street properties.

7.2 Truck Deliveries

The impacts caused by construction trucks during the evening peak hour is expected to be minimal because most deliveries will be completed prior to the PM peak hour. However, steel for erection of the Jordan Marsh Department Store will be delivered after the PM peak hour to the Washington and Summer Streets intersection to ensure pedestrian safety.

7.3 Truck Routes

It is anticipated that the largest number of heavy construction vehicles serving the site, approximately 70 per day, will occur between the third quarter of 1990 and the fourth quarter of 1991. The traffic impacts due to construction vehicles will be minimal because the majority of construction deliveries will occur after the AM peak hour and prior to the PM peak hour. Heavy vehicle trips will be spread uniformly throughout the day, impacting peak hour traffic even less.

The maximum number of trucks during the AM or PM peak hour from the Boston Crossing project is expected to be approximately ten. Truck traffic from the One Lincoln Street project will be similar. There are three intersections that truck traffic will be coincidental. These include:

1) Surface Artery/Essex Street/Lincoln Street,
2) Summer Street/Bedford Street/Lincoln Street, and
3) Kingston Street/Essex Street.

The number of trucks at these intersections due to both projects will be a maximum of twenty trucks during any one hour. Coordinated truck traffic will be fully addressed in the construction management program. At all times during the construction of both projects, roadways will remain open to auto and truck traffic. The developers of One Lincoln Street and Commonwealth Center and developers of other nearby projects are planning to form a Midtown Developers Transportation Management Association which will help to coordinate the truck traffic.

The Boston Crossing team will designate an individual as the primary contact to work with appropriate public review agencies, surrounding businesses and communities. The liaison will ensure coordination with other development projects and will be able to provide construction information as required.

7.4 Construction Worker Parking

Construction workers will be encouraged to use public transportation. Since ample secured storage for tools will be provided on-site, workers will not need to transport their tools to and from the site on a daily basis; thereby alleviating the need to drive to the site.

No on-site parking will be available for personal vehicles. Past experience shows that the lack of free or subsidized parking discourages use of personal vehicles and increases the use of carpooling.

In addition, bulletin boards located around the site will be used to post bus schedules, train schedules, and car-pooling information. These efforts to optimize construction workers' use of all available means of alternative transportation will be coordinated with the Midtown Developers Transportation Management Association discussed in Chapter II, General Information, Section 5.0, Public Benefits.

The peak demand for workers should occur in the quarter immediately preceding project opening during the late summer to early fall of 1992. The remainder of the construction period will demand fewer workers at any one time. Since the Lafayette Place Mall is likely to be only partially occupied during construction, the demand on the existing garage facilities should be reduced. The relatively small number of vehicles that may be used during the construction period should be absorbed by the parking facilities near the site. Currently, Campeau is investigating all available options to mitigate construction-related traffic and will coordinate such options with the Midtown Developers Transportation Management Association.

8.0 MITIGATION MEASURES

The developers of the proposed Boston Crossing project are committed to working with the Boston Transportation Department and with the developers of Commonwealth Center and One Lincoln Street to improve traffic operations and pedestrian amenities in downtown Boston. The proponent is committed to assist in the implementation of the mitigation measures developed to improve traffic operations. The developers of Boston Crossing, Commonwealth Center and One Lincoln Street have worked together and are in agreement on the proposed mitigation measures.

8.1 Roadway and Intersection Improvements

Capacity analyses were performed for the two additional intersections (Kneeland Street/Surface Artery and Church Green) with the existing roadway network and for the intersections with the revised network affected by rerouting higher traffic volumes on a widened, two-way Essex Street. The capacity analyses were performed for AM, PM and Saturday peak hours. Section 5.0 of this chapter, Chapter IV Transportation Component, (Table IV-5, IV-7 and IV-8) identifies the intersections that operate at deficient levels of service for the existing and revised networks. The intersections that operate at poor levels of service for the future build condition include Kneeland Street/Surface Artery and the intersections presented in the DPIR and DEIR and summarized in the Table IV-19.

The mitigation required at these intersections to obtain acceptable levels of service is the same as presented in the DPIR and DEIR, except for the Tremont Street/Boylston Street and Kneeland Street/Surface Artery intersections. The necessary proposed improvements as described in the DPIR and DEIR and additional improvements for the Tremont Street/Boylston Street and Kneeland Street/Surface Artery intersections are also outlined in the following sections. The migitation proposed in the following sections improves the deficient levels of service for both the existing and revised roadway networks except for the Chauncy Street/Avenue de Lafayette, Harrison Avenue/Beach Street, and Kingston Street/Avenue de Lafayette/Essex Street intersections. At the Chauncy Street/Avenue de Lafayette intersection, mitigation is required only for the revised roadway network. At the other two intersections, mitigation is required only for the existing roadway network.

TABLE IV-19
INTERSECTIONS WITH LEVEL OF SERVICE DEFICIENCIES
1995 BUILD

Intersection	Existing Roadway Network	Revised Roadway Network
Tremont Street/Boylston Street	X	X
Washington Street/Essex Street/Boylston Street	X	X
Harrison Avenue/Kneeland Street	X	X
Chauncy Street/Avenue de Lafayette		X
Surface Artery/Essex Street/Lincoln Street	X	X
Harrison Avenue Extension/Essex Street	X	X
Harrison Avenue/Beach Street	X	
Harrison Avenue Extension/Avenue de Lafayette	X	X
Chauncy Street/Bedford Street/Garage Entrance/Exit	X	X
Kingston Street/Avenue de Lafayette/Essex Street	X	
Kingston Street/Bedford Street	X	X
Kneeland Street/Surface Artery	X	X

8.2 Boylston Street/Essex Street Corridor

All intersections along the Boylston Street/Essex Street corridor will operate at poor levels of service for future No-Build and Build conditions. Boylston Street/Essex Street between Arlington Street and Surface Artery will become part of the City of Boston's Traffic Relief Program (TRP) and be classified as a major trip route. Under the TRP the following actions will be taken:

- o No Stopping Zones established along portions of Boylston Street and Essex Street between 7:00 AM and 7:00 PM.
- o Parking meters removed where necessary.
- o Taxi stands relocated as needed.
- o No Stopping Zones established on some intersecting side streets to improve flow and increase capacity.
- o Enforcement of restrictions during the peak periods with Traffic Officers from the Boston Transportation Department (BTD) and cooperation of the Boston Police Department.

Particular problem areas such as the Tremont Street/Boylston Street, the Harrison Avenue Extension/Essex Street and the Kingston Street/Avenue de Lafayette/Essex Street intersections require mitigation beyond that recommended under the TRP. The designation of Essex Street/Boylston Street as a TRP route will reduce vehicular travel time along this corridor, increase intersection capacity, eliminate vehicular blockage at intersections, eliminate double parking, minimize pedestrian/vehicular conflicts at intersections and provide clear regulatory and street name signing.

Tremont Street/Boylston Street

This intersection will operate at very poor levels of service (LOS F) during the peak periods. Poor operations are caused by a combination of factors at this intersection. Contributing to the poor level of service are high traffic volumes, high

pedestrian volumes, an exclusive pedestrian phase during the peak hours, double parking on Boylston Street and the occasional parking on Tremont Street.

A recommended improvement is the restriction of parking along Boylston Street during the peak hours which will allow three lanes of traffic and the reallocation of lane usage. On the Boylston Street approach, the lane configuration includes two through lanes and one exclusive right-turn lane. The Tremont Street approach will be restriped for one exclusive right-turn lane, two through lanes, and an exclusive left-turn lane. An excluvise pedestrian phase will also be maintained at this intersection. The proposed mitigation and phasing are shown in Figure IV-16.

The proposed mitigation at this intersection will improve traffic operations from LOS F for all future Build conditions to LOS D for the AM peak hour and LOS E for the PM peak hour with the existing roadway network, and LOS E during both AM and PM peak hours for the revised roadway network. The levels of service for all conditions are summarized in Table IV-20.

Washington Street/Essex Street/Boylston Street

This intersection is projected to operate at poor levels of service for the 1995 Build condition during both the AM and PM peak hours with the existing and revised roadway network.

A new MBTA station is planned on the northeast corner (at 600 Washington Street) of the intersection of Washington Street/Essex Street/Boylston Street. Upon completion of the new station, MBTA stations (exits and entrances) will be located on three corners. Currently, stations exist on the northwest and southeast corners. The additional exit and entrance will help reduce the pedestrian traffic at this intersection. With the subsequent reduction of pedestrian traffic, the elimination of the exclusive pedestrian phase and the provision of a fully-actuated pedestrian phase will improve traffic operations. An actuated pedestrian phase is activated by pedestrian push buttons and therefore only occurs when necessary, and will not be necessary every cycle. Additional green time will, therefore, be available for vehicles at the intersection.

This intersection will also be improved by providing TRP measures, traffic signal coordination, and new pavement markings. The proposed phasing and pavement marking improvements are shown in Figure IV-17. As shown in Table IV-21, the mitigation including coordinated signals, improved signal phasing, the new MBTA station that

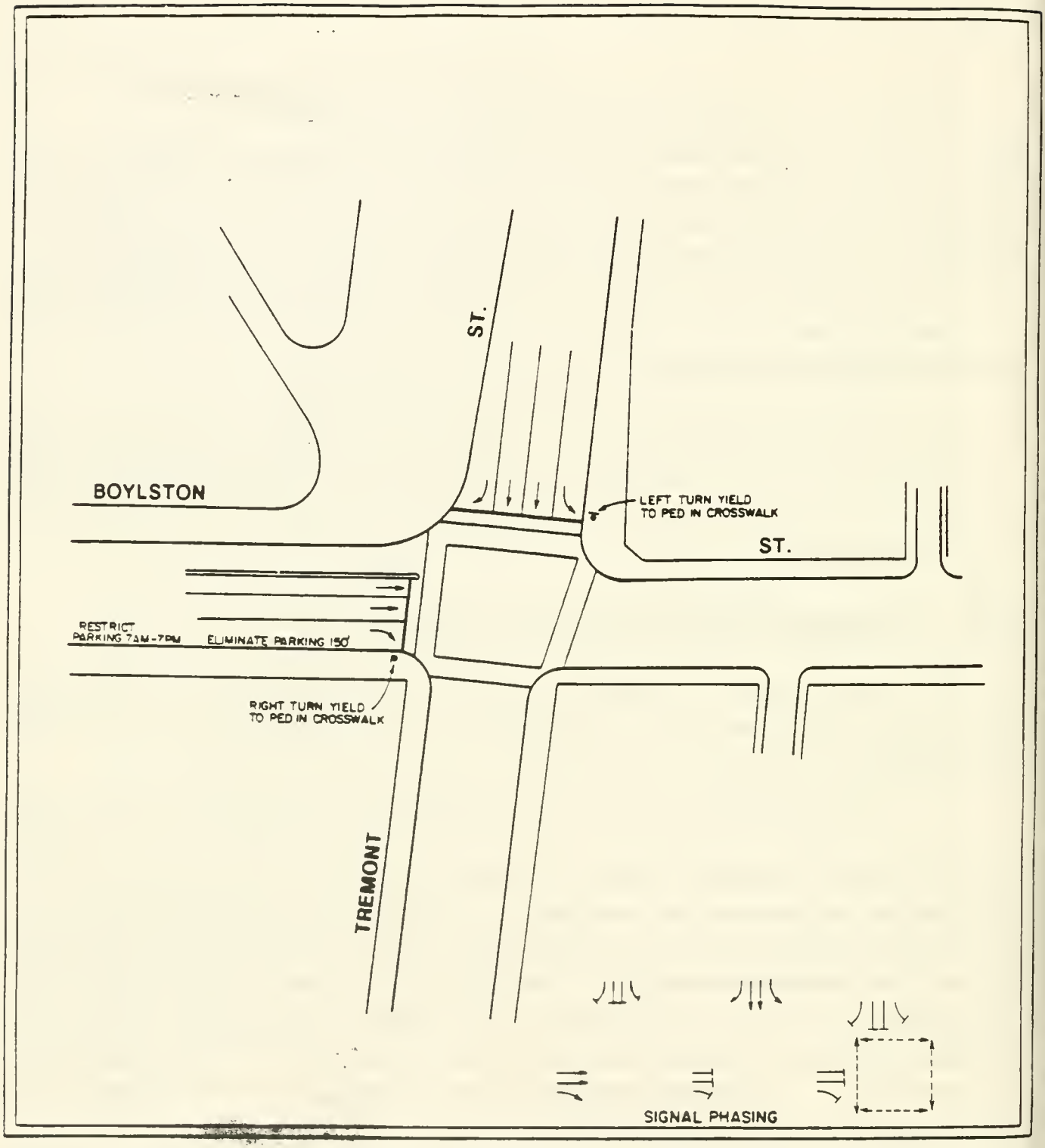


FIGURE IV-16
PROPOSED IMPROVEMENTS AT TREMONT STREET / BOYLSTON STREET

BOSTON CROSSING

0 60 120

TABLE IV-20
TREMONT STREET/BOYLSTON STREET
EXPECTED LEVELS OF SERVICE

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay
1989 Existing*	1908	C	19.68	2616	F	> 100
1995 No-Build*						
- Existing Network	2753	F	82.34	3617	F	> 100
- Revised Network	2943	F	78.06	3758	F	> 100
1995 Build*						
- Existing Network	2934	F	> 100	3994	F	> 100
- Revised Network	3113	F	> 100	3972	F	> 100
With Mitigation**						
1995 No-Build						
- Existing Network	2753	C	22.88	3617	E	42.89
- Revised Network	2943	D	35.24	3758	E	48.86
1995 Build						
- Existing Network	2934	D	37.48	3994	E	51.98
- Revised Network	3113	E	56.01	3972	E	54.52

* Adjustments for double parking.
AM: Saturation Flow Rate 1600 SB
PM: Saturation Flow Rate 1600 SB
Saturation Flow Rate 2100 EB but only One lane

** Mitigation includes Traffic Relief Program measures and the provision of three lanes on Boylston Street.

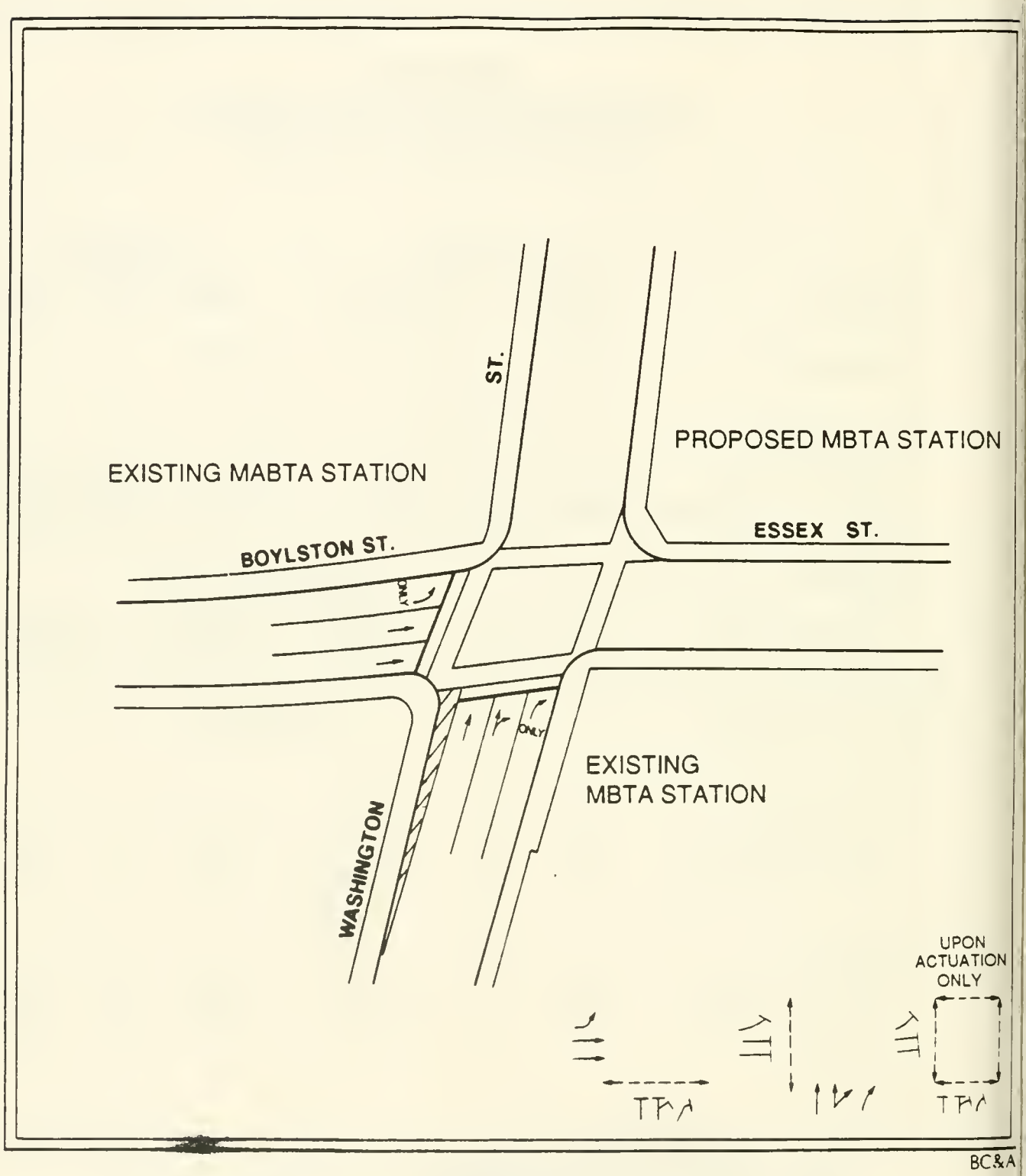


FIGURE IV-17
PROPOSED IMPROVEMENTS AT WASHINGTON STREET/BOYLSTON STREET/ESSEX STREET

BOSTON CROSSING

0 60 120

TABLE IV-21

WASHINGTON STREET/BOYLSTON STREET/ESSEX STREET

EXPECTED LEVELS OF SERVICE*

Condition	AM PEAK			PM PEAK			SATURDAY PEAK		
	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay
1989 Existing	1433	C	18.14	1590	D	35.96	1187	C	14.04
1995 No-Build									
- Existing Network	2055	D	31.16	2530	F	85.12	1878	C	18.90
- Revised Network	1987	D	28.00	2361	E	50.12	1918	C	21.82
1995 Build									
- Existing Network	2365	F	61.32	2772	F	93.26	2143	D	25.64
- Revised Network	2164	E	43.92	2460	F	62.95	2025	D	27.61
With Mitigation									
1995 No-Build									
- Existing Network	2055	C	18.37	2530	C	22.32	1878	B	13.40
- Revised Network	1987	C	16.32	2361	C	20.90	1918	B	13.47
1995 Build									
- Existing Network	2365	D	26.44	2772	E	42.96	2143	B	14.83
- Revised Network	2164	C	19.71	2460	D	25.17	2025	B	14.74

* Mitigation includes Traffic Relief Program measures, the coordination of traffic signals, improved signal timings and new MBTA station reducing pedestrian volumes.

reduces pedestrian volumes crossing Boylston and Washington Streets, and new pavement markings improves the expected levels of service at the intersection of Washington Street/Essex Street/Boylston Street for the 1995 Build condition during the AM and PM peak hours for the existing and revised roadway networks.

Harrison Avenue Extension/Essex Street

The Harrison Avenue Extension/Essex Street intersection experiences poor levels of service (LOS E or F) for all future No-Build and Build conditions on the Harrison Avenue Extension approach. This intersection requires signalization to allow it to operate at acceptable levels of service for future conditions. The proposed mitigation is the same as presented in the DPIR and DEIR and includes signalization, TRP measures (peak parking restrictions, etc.) and signal coordination on Essex Street. The conceptual layout of this intersection includes one left turn and one through lane on the Harrison Avenue Extension approach and three lanes (one right turn and two through/left turn lanes) on the Essex Street approach.

The level of service analysis results are summarized in Table IV-22. Analysis of this intersection indicates that the intersection will operate at acceptable levels of service (LOS C or better) for all future conditions with the proposed mitigation.

Kingston Street/Avenue de Lafayette/Essex Street

For the existing roadway network, the Kingston Street/Avenue de Lafayette/Essex Street intersection requires signalization once all other area development is completed. The two-way Essex Street proposal also requires signalization at this intersection. As it currently exists, this intersection operates at poor levels of service (LOS E or F) for existing, future No-Build and Build conditions. Level of service analysis performed for future conditions with coordinated signals is summarized in Table IV-23. The improvements necessary at this location are the same as presented in the DPIR and DEIR and include signalization and TRP measures.

Surface Artery/Essex Street/Lincoln Street

Slight improvements in operating conditions at the Surface Artery/Essex Street/Lincoln Street intersection will be achieved for the future No-Build and Build conditions with coordinated signals. To operate at acceptable

TABLE IV-22
HARRISON AVENUE EXTENSION/ESSEX STREET
EXPECTED LEVELS OF SERVICE
WITH SIGNALIZATION

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay	SATURDAY PEAK Volume	SATURDAY PEAK LOS	SATURDAY PEAK Delay
With Mitigation*									
1995 No Build									
- Existing Network	1443	B	6.22	2158	B	13.02	1637	B	11.14
- Revised Network	1625	A	4.13	2073	B	8.50	1775	B	6.70
1995 Build									
- Existing Network	1859	B	6.51	2616	C	23.04	1974	B	10.90
- Revised Network	1856	B	6.37	2470	C	20.85	2058	B	11.07

* Mitigation includes Traffic Relief Program measures and new coordinated traffic signals.

TABLE IV-23

KINGSTON STREET/AVENUE DE LAFAYETTE/ESSEX STREET

EXPECTED LEVELS OF SERVICE

WITH SIGNALIZATION

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay
With Mitigation*						
1995 No-Build						
- Existing Network	1093	B	9.02	2084	C	17.60
- Revised Network	1389	B	8.79	2302	C	16.67
1995 Build						
- Existing Network	1149	B	9.23	2389	D	35.40
- Revised Network	1817	B	8.55	2819	D	33.11

* Mitigation includes Traffic Relief Program measures and new coordinated traffic signals.

levels of service, however, requires further mitigation rather than coordination. Representatives of Bruce Campbell & Associates (BC&A) have met with Boston Transportation Department staff to discuss the City's plans at this location in connection with the depression of the Central Artery. This meeting was attended by consultants working on the One Lincoln Street and the Commonwealth Center projects. Methods of improving capacity and allowing the interim improvements to be utilized for future conditions were discussed. Based on these preliminary discussions, BC&A has developed proposed improvements that will allow this intersection to operate at LOS D for the future Build condition. The proposed improvements are shown in Figures IV-18 and IV-19 and are the same as those presented in the DPIR and DEIR.

The results of the analysis performed at this intersection with the proposed mitigation are summarized in Table IV-24.

As shown in the table, the Surface Artery/Lincoln Street/Essex Street intersection will operate at LOS D or E for all future No-Build and Build conditions with the proposed mitigation.

Kneeland Street/Surface Artery

The Kneeland Street/Surface Artery intersection will operate at very poor levels of service during the PM peak hour for No-Build and Build conditions with the existing and revised roadway network. High volumes on the Surface Artery approach in conjunction with the high volumes on the eastbound Kneeland Street left-turn lane contribute to the poor level of service.

A recommended improvement at the intersection is to restripe the eastbound approach to provide a left-turn only lane, a combined left turn - through lane and a right-turn lane and to improve the signal timing and phasing. This mitigation is shown in Figure IV-20. The level of service for all conditions is summarized in Table IV-25.

During the AM peak hour, this intersection will remain at LOS C with the proposed mitigation for No-Build and Build conditions with the existing and revised roadway networks. During the PM peak, the proposed mitigation will improve traffic operations from LOS E or F to LOS D or E for No-Build and Build conditions with the existing network and from LOS E to LOS D for the No-Build condition and LOS F to LOS E for the Build condition with the revised roadway network.

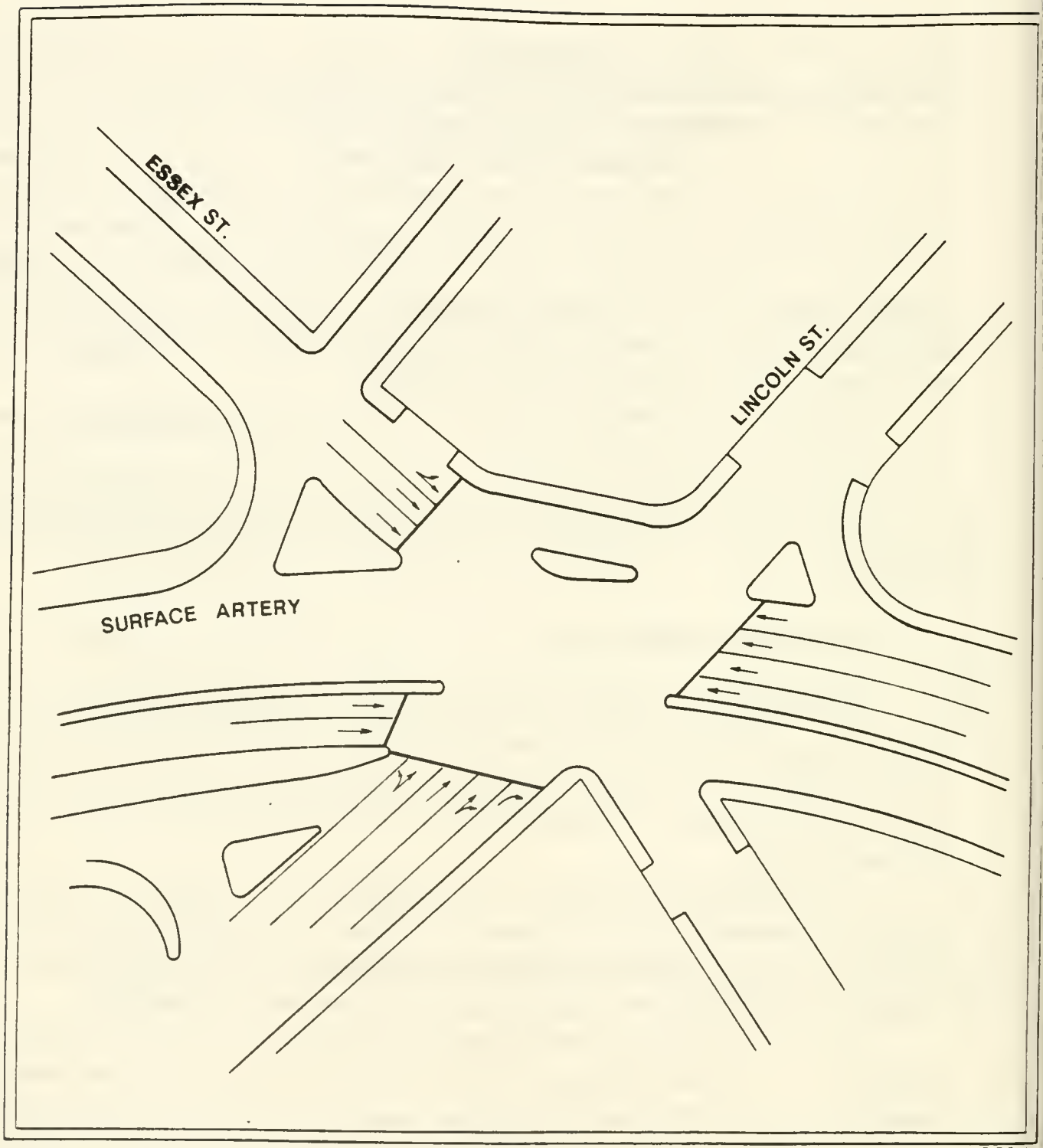


FIGURE IV-18
PROPOSED IMPROVEMENTS AT SURFACE ARTERY / ESSEX STREET / LINCOLN STREET
ONE WAY ESSEX STREET

BOSTON CROSSING

0 60 120

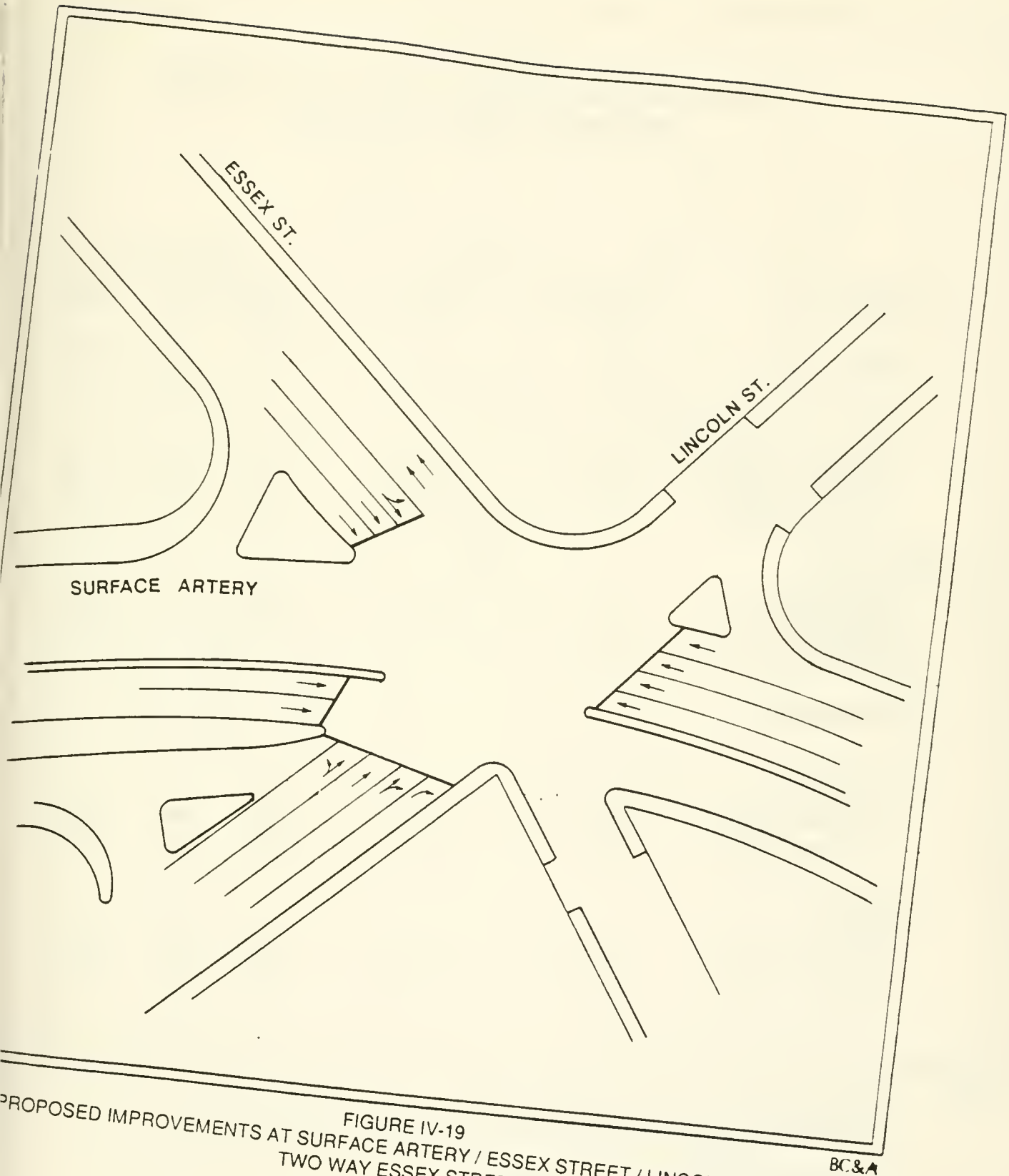


FIGURE IV-19
PROPOSED IMPROVEMENTS AT SURFACE ARTERY / ESSEX STREET / LINCOLN STREET
TWO WAY ESSEX STREET

TABLE IV-24

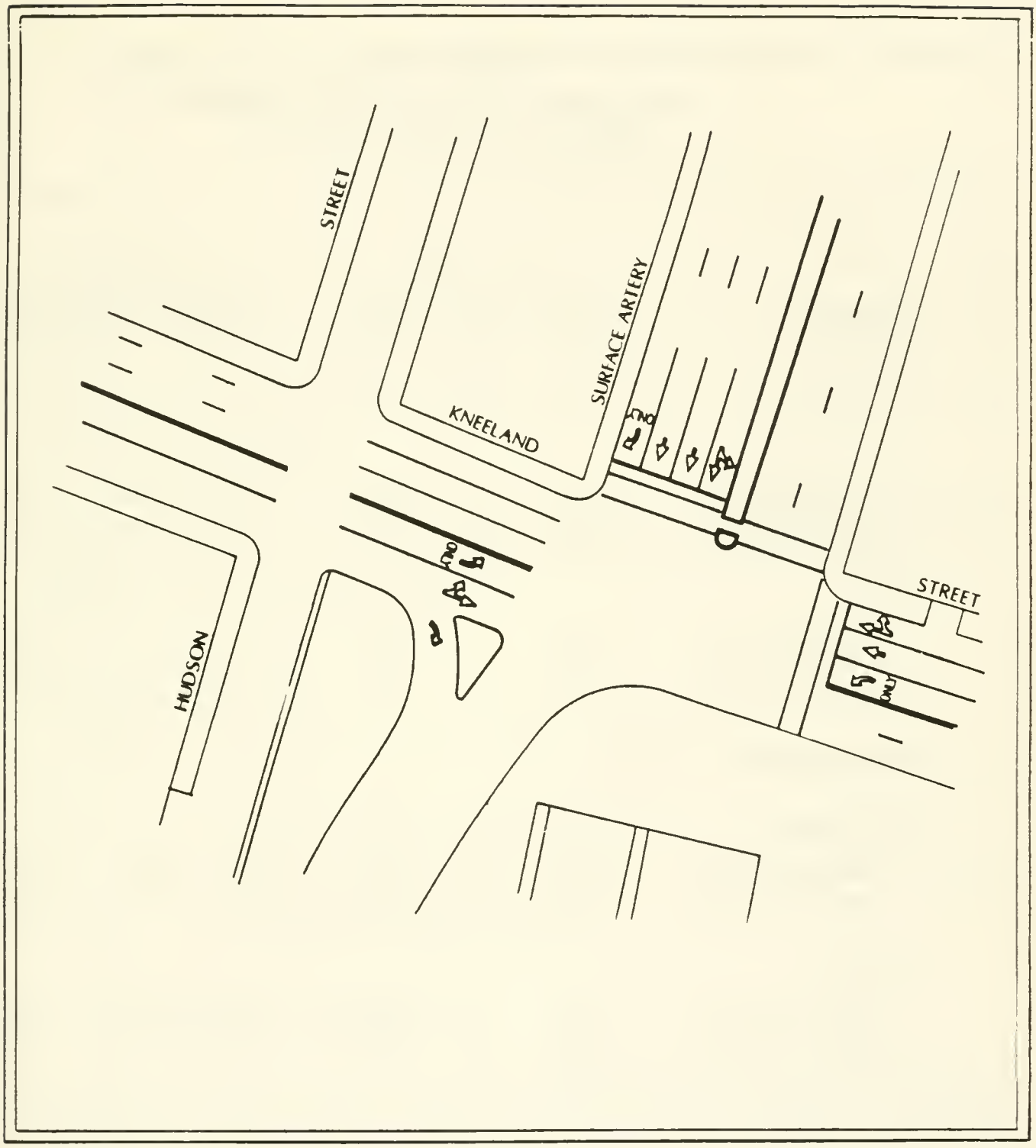
SURFACE ARTERY/LINCOLN STREET/ESSEX STREET

EXPECTED LEVELS OF SERVICE

	AM PEAK			PM PEAK		
Condition	Volume	LOS	Delay	Volume	LOS	Delay
1989 Existing*	3171	F	137.72	3204	F	85.27
1995 No-Build**						
- Existing Network	3816	F	66.80	3927	E	40.62
- Revised Network	4227	F	88.67	4446	F	92.99
1995 Build						
- Existing Network	4108	F	91.95	4260	F	69.54
- Revised Network	4588	F	127.94	4927	F	92.99
With Mitigation						
1995 No-Build						
- Existing Network	3816	D	33.73	3927	D	30.04
- Revised Network	4227	D	33.98	4446	D	34.01
1995 Build						
- Existing Network	4108	E	43.61	4260	D	28.56
- Revised Network	4588	D	38.45	4927	D	39.33

* Calculated with existing signal timings - not optimized.

** Signal timings optimized.



BC&A

FIGURE IV-20
PROPOSED IMPROVEMENTS TO KNEELAND STREET/SURFACE ARTERY

BOSTON CROSSING

Not to scale.

TABLE IV-25
KNEELAND STREET/SURFACE ARTERY
EXPECTED LEVELS OF SERVICE

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay
1989 Existing	2424	B	13.94	3476	C	20.19
1995 No-Build						
- Existing Network	3013	C	20.49	4355	F	66.71
- Revised Network	2853	C	15.15	4195	E	56.46
1995 Build						
- Existing Network	3066	C	20.60	4660	F	74.30
- Revised Network	2906	C	19.16	4500	F	63.88
With Mitigation*						
1995 No-Build						
- Existing Network	3013	C	24.11	4355	E	44.33
- Revised Network	2853	C	23.22	4195	D	37.80
1995 Build						
- Existing Network	3066	C	24.29	4660	E	46.87
- Revised Network	2906	C	23.35	4500	E	40.30

* Mitigation includes revised signal timings and reallocation of lane uses.

8.3 Chauncy Street/Bedford Street/Garage Entrance/Exit and Avenue de Lafayette/ Harrison Avenue Extension

The intersections of the Lafayette Garage Entrance and Exit with Chauncy Street/ Bedford Street and with Avenue de Lafayette /Harrison Avenue Extension will operate at poor levels of service (LOS F) during the PM peak for future Build conditions with no mitigation. The proposed Boston Crossing project will add about 400 new vehicles at each garage entrance/exit. The increase in traffic volumes on these approaches will cause the intersections to fail. Improvements required at these intersections include signalization or dispersion of trips over a greater time period. The dispersion of traffic over longer time periods can be accomplished through staggered work schedules or flex times as discussed in Section 8.5 of this Chapter.

Signals at these intersections will improve expected traffic operations. The results of the analyses are summarized in Table IV-26. The signals at these locations improve traffic operations to LOS D or better. Traffic operations will be further improved by the dispersion of traffic over a longer period.

8.4 Other Intersections

The other study area intersection that require mitigation include:

- Harrison Avenue/Kneeland Street
- Chauncy Street/Avenue de Lafayette
- Harrison Avenue/Beach Street
- Kingston Street/Bedford Street

Harrison Avenue/Kneeland Street

The Harrison Avenue/Kneeland Street intersection will operate at acceptable levels of service for future No-Build and Build conditions with the continuance of parking restrictions on Kneeland Street and the start of peak hour parking restrictions on the Harrison Avenue approach. Currently parking and occasionally double parking occur within 75 feet of the intersection on Harrison Avenue allowing only one lane of traffic to form at the signal. With peak hour parking restrictions on this approach, two lanes will form. Level of service analyses were performed for No-Build and Build conditions with a two lane approach.

TABLE IV-26

LAFAYETTE GARAGE ENTRANCE/EXIT INTERSECTIONS

EXPECTED LEVELS OF SERVICE

WITH SIGNALIZATION*

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay	SATURDAY PEA Volume	SATURDAY PEA LOS	SATURDAY PEA Dela
Chauncy Street/Bedford Street/Garage Entrance-Exit									
1995 Build									
- Existing Network	1441	C	24.78	1514	C	20.53	1195	B	12.0
- Revised Network	1296	D	31.39	1451	C	15.95	1118	B	12.1
Avenue de Lafayette/Harrison Avenue Extension/Garage Entrance-Exit									
1995 Build									
- Existing Network	776	A	3.04	1069	B	8.15	810	B	6.38
- Revised Network	1112	A	2.41	1319	B	10.35	899	B	6.09

* Mitigation includes new traffic signals.

As shown in Table IV-27, this intersection will operate at acceptable levels of service (LOS B) for all future conditions with peak hour parking restrictions on Harrison Avenue and TRP measures on Kneeland Street.

Chauncy Street/Avenue de Lafayette

The Chauncy Street/Avenue de Lafayette intersection will operate at poor levels of service (LOS E) with the revised roadway network during the AM peak only for the Build condition. This intersection will operate at LOS C or D for all other future conditions. Longer delays will be encountered due to greater volumes on the Avenue de Lafayette approach with the proposed two-way Essex Street. Traffic operations can be upgraded with AM peak hour parking restrictions on the westbound approach. The parking restriction will allow a third lane of traffic to form on this approach for right-turn movements. The peak hour parking restriction will allow this intersection to operate at LOS D even with the added traffic assigned to a widened two-way Essex Street.

Harrison Avenue/Beach Street

Motorists on the Beach Street approach to the Harrison Avenue/Beach Street intersection will experience long delays during the peak hours for all future conditions. High traffic volumes utilize Beach Street as a cut-through route to access Boylston Street via Washington Street, West Street and Tremont Street. The City of Boston is proposing to close Beach Street at the Chinatown gate, eliminating cut-through traffic and allowing movements on the Beach Street approach to operate at acceptable levels of service (LOS E or better) for all future conditions.

Kingston Street/Bedford Street

The proposed mitigation at this intersection is the same as proposed in the DPIR and DEIR - signalization. With the proposed mitigation, this intersection will operate at acceptable levels of service as also shown in the DPIR and DEIR.

TABLE IV-27
HARRISON AVENUE/KNEELAND STREET
EXPECTED LEVELS OF SERVICE

Condition	AM PEAK Volume	AM PEAK LOS	AM PEAK Delay	PM PEAK Volume	PM PEAK LOS	PM PEAK Delay
1995 No-Build*						
- Existing Network	2263	C	16.22	2722	F	86.38
- Revised Network	1963	B	12.47	2515	E	54.20
1995 Build*						
- Existing Network	2291	C	21.81	2864	F	243.97
- Revised Network	1991	B	13.73	2664	F	108.60
With Mitigation**						
1995 No-Build						
- Existing Network	2263	B	7.78	2722	B	12.46
- Revised Network	1963	B	6.38	2515	B	10.09
1995 Build						
- Existing Network	2291	B	8.20	2864	B	14.79
- Revised Network	1991	B	6.88	2664	B	12.26

* Signal timings optimized - one lane approach on Harrison Avenue.

** Mitigation includes peak hour parking restrictions on Harrison Avenue and TRP measures on Kneeland Street.

Summary of Mitgation Measures

The physical improvements necessary at each intersection and the responsible agencies are summarized in Table IV-28 and will be described in greater detail in the Transportation Access Plan.

8.5 Other Mitigation Measures

The use of public transit is expected to be higher than estimated in the trip generation section, Section 4.1 of the FPIR/FEIR, thereby reducing the traffic-related impact. The public transit system has the capacity to accommodate the additional trips, particularly with the promotion of staggered work hours and off-peak ridership. The proponent will also encourage transit usage through various measures: direct connections to the MBTA, on-site sales of MBTA passes, transit subsidies and promotion transit through advertising.

Ridesharing is another demand reduction measure and encourages commuters to ride together rather than alone. Developers of Boston Crossing will enlist the services of a ridesharing agency and will promote this service. This measure will help to reduce the trip generation rate and therefore reduce traffic impacts.

Alternative work schedules also offer peak hour demand reduction by spreading trips over a longer period. Flexible work hours will allow peak hour spreading and will be promoted by the developers of Boston Crossing when marketing the site.

Several other projects will be under construction and/or leasing over the same time period as the Boston Crossing project. The developer of the proposed Boston Crossing project will work with other area developers to coordinate transportation planning and have formed a Midtown Developers Transportation Management Association. Joint meetings have been held to discuss issues of common concern and this effort will be ongoing to resolve transportation issues within the city as they arise. The project proponent will appoint a staff person in the building management office whose responsibilities will include the coordination of all of the above efforts. This transportation coordinator will be the city's key contact with the building management and will have the authority to resolve transportation issues as they arise.

TABLE IV-28
TRAFFIC MITIGATION

Intersection	Proposed Mitigation	Responsible Agency	Estimated Completion Date	LOS 1989 AM	LOS 1989 PM	LOS 1995 No-Build AM E	LOS 1995 No-Build AM R	LOS 1995 No-Build PM E	LOS 1995 No-Build PM R	LOS 1995 Build w/Mitigation AM E	LOS 1995 Build w/Mitigation AM R	LOS 1995 Build w/Mitigation PM E	LOS 1995 Build w/Mitigation PM R
Kneeland St./ Surface Artery	Restripe Surface Artery. Restripe Kneeland Street. Improve signal timing and phasing.	FHWA/MDPW-Urban Systems/ Interstate Funding/ High Hazard Elimination	1995	B	C	C	C	F	E	C	C	E	E
Hayward Place/ Avery Street/ Washington St.	Realign and improve signals. Maintain 2 lanes from Hayward Place to Avery Street. Maintain 3 lanes (1 parking, 2 travel) on Washington St.	MDPW/BTD - Chapter 90	1994	B	B	B	B	B	B	B	B	B	B
Kingston St./ Bedford St.	Signalize.	MDPW/BTD - Chapter 90	1993	C	E	E	D	F	F	D	B	D	D
Church Green	Adjust signal timing.	MDPW/BTD - Chapter 90	1992	D	B	C*	B	B	B	D	C	C	B
Tremont St./ Boylston St.	Restrict parking on Boylston St. Restripe Boylston Street. Restripe Tremont Street. Improve signal timing and phasing.	FHWA/MDPW - Urban Systems	1993	C	F	F	F	F	F	D	E	E	E

- Continued -

E - Existing Roadway Network
R - Revised Roadway Network.
* - Revised network includes signals at this location.

TABLE IV-28 (Continued)

Intersection	Proposed Mitigation	Responsible Agency	Estimated Completion Date	LOS 1989 AM	LOS 1989 PM	LOS 1995 No-Build AM E	LOS 1995 No-Build AM R	LOS 1995 No-Build PM E	LOS 1995 No-Build PM R	LOS 1995 Build w/Mitigation AM E	LOS 1995 Build w/Mitigation AM R	LOS 1995 Build w/Mitigation PM E	LOS 1995 Build w/Mitigation PM R
Washington St./ Boylston St.	Restrict parking on Boylston St. Restripe Boylston Street. Restripe Washington Street. Improve signal timing and phasing.	FHWA/MDPW - Urban Systems	1993	C	D	D	D	F	E	D	C	E	D
Harrison Ave. Ext./Chauncy St./Essex St. (Phillips Square)	Restrict parking on Essex St. and Harrison Ave. Extension. Restripe Essex St. (3 lanes). Restripe Harrison Ave. Ext. (2 lanes) Signalize.	FHWA/MDPW - Urban Systems	1994	D	F	E	E	F	F	B	B	C	C
Avenue de Lafayette/ Essex St./ Kingston St.	Restrict parking on Essex St. Restripe Essex St. (3 lanes). Restripe Kingston Street (2 lanes). Signalize.	FHWA/MDPW-Urban Systems/ High Hazard Elimination	1993	D	F	E	B*	F	C*	B	B	D	D
Surface Artery/ Lincoln St./ Essex Street	Relocate island. Improve signal timing and phasing.	FHWA/MDPW-Urban Systems/ Interstate Funding	1995	F	F	F	F	E	F	E	D	D	D
Garage Entry/ Avenue de Lafayette	Signalize.	MPDW/BTD - Chapter 90	1994	A	B	A	C	B	D	A	A	B	B
Garage Entry/ Chauncy St./ Bedford St.	Signalize.	MDPW/BTD - Chapter 90	1994	B	D	D	C	D	D	C	D	C	C

E - Existing Roadway Network
R - Revised Roadway Network.
* - Revised network includes signals at this location.

V. ENVIRONMENTAL PROTECTION COMPONENT

V. ENVIRONMENTAL PROTECTION COMPONENT

1.0 WIND

1.1 Summary of Findings

The Wind section addresses the issues raised in the Preliminary Adequacy Determination issued by the BRA and includes the results of the analysis of the amended design, as described in the Urban Design Component of the FPIR/FEIR.

The seasonal analysis of the proposed Boston Crossing project, as analyzed for the DPIR and DEIR design and for the amended design, shows that the most probable high-speed winds will occur during the fall and winter months. The design tested in the DPIR and DEIR recorded three locations on the annual basis and seven locations on the seasonal basis exceeding the BRA's 31 miles per hour (mph) one percent gust velocity guideline. With the project's amended design, wind levels have been effectively mitigated. As a result of the new design, annual wind levels no longer exceed the BRA's 31 mph guidelines, while the guideline is barely exceeded twice on a seasonal basis.

The amended design of Boston Crossing and the redesign of the Commonwealth Center project have resulted in a more comfortable wind environment. No further mitigation measures are necessary for the Boston Crossing project.

1.2 Maps with Velocities

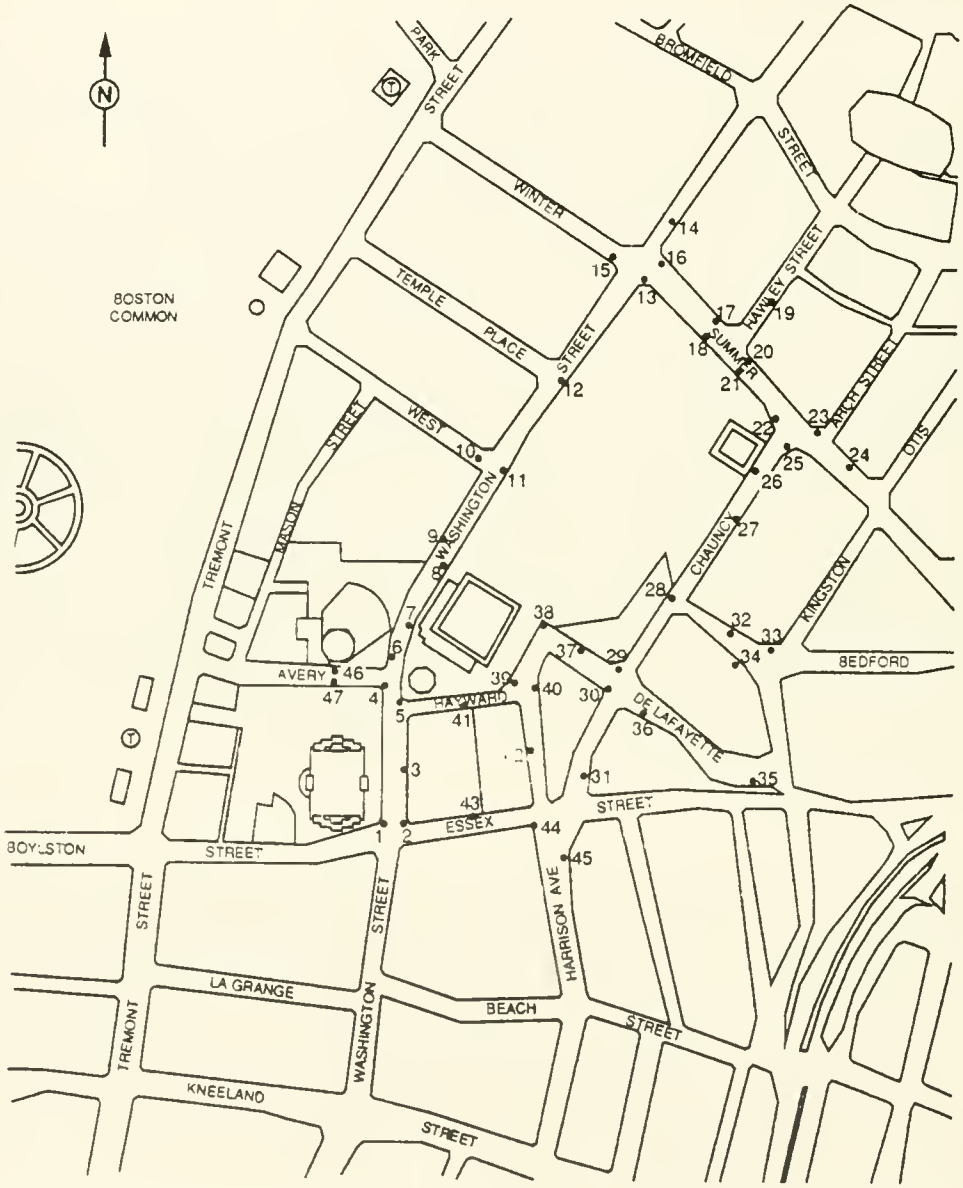
As requested in the Preliminary Adequacy Determination, Figures V-1 and V-2 present maps of sensor locations with the 1% annual gust velocities and the 1% annual mean velocities, respectively. The shaded velocities in Figure V-1 highlight the sensor locations which exceed the BRA's 31 mph guideline. Figures V-1 and V-2 represent the analysis results of the DPIR and DEIR design. Maps with velocities representing the amended design are included as Figures V-7 and V-8 (pages V-14 and V-15) in Section 1.5.2, Quantitative Analysis of Amended Design.

1.3 Seasonal Wind Impact

As requested in the Preliminary Adequacy Determination, an analysis of seasonal wind impact based on the design presented in the DPIR and DEIR has been described below.

NB = No-Build Conditions as of 1995
PP = Proposed Project

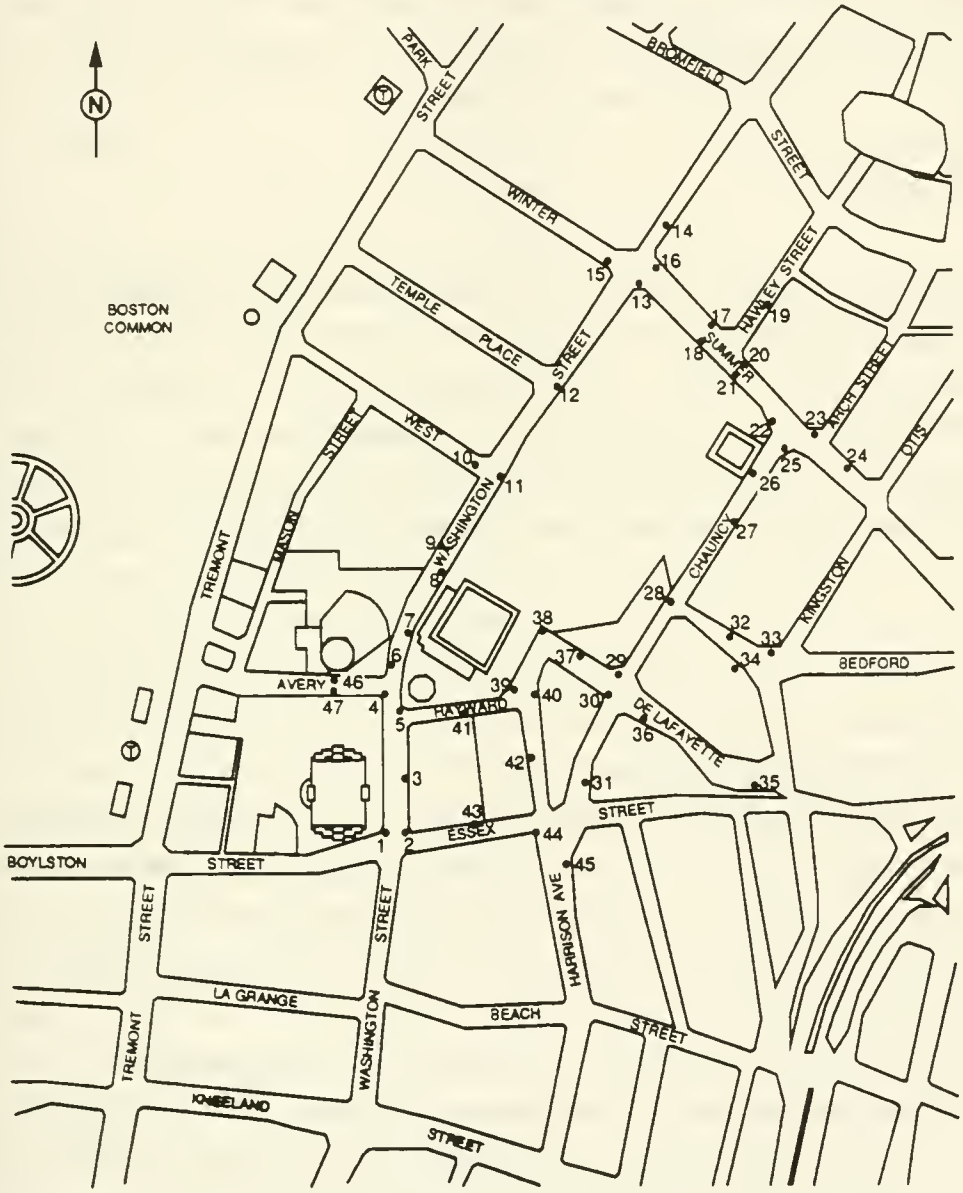
33.3 = Exceeds BRA criterion for acceptability limit of pedestrian of 31 mph effective gust velocity 1% of the time on an annual basis



Point #	Gust Velocity (mph)	
	NB	PP
1	**35.0**	30.0
2	28.8	26.9
3	**34.1**	**33.3**
4	25.3	**31.5**
5	29.9	**31.8**
6	18.4	26.1
7	30.5	29.0
8	20.0	17.8
9	21.2	17.3
10	16.9	15.3
11	18.3	15.3
12	16.0	16.9
13	17.8	18.8
14	16.7	14.0
15	16.6	13.2
16	13.3	20.6
17	13.4	18.9
18	9.4	17.3
19	14.4	16.6
20	17.9	23.5
21	13.3	26.7
22	18.0	22.8
23	17.9	23.0
24	28.5	17.4
25	12.2	18.6
26	13.3	19.2
27	11.3	13.7
28	27.8	26.2
29	26.0	24.1
30	11.0	15.0
31	16.7	30.2
32	27.9	27.2
33	28.8	23.2
34	22.1	19.7
35	22.0	17.7
36	16.7	16.7
37	22.0	17.3
38	29.4	10.0
39	**31.2**	23.0
40	28.9	23.2
41	25.0	29.4
42	26.5	18.8
43	27.0	26.9
44	22.0	18.0
45	22.2	19.8
46	27.8	27.6
47	23.9	21.2

FIGURE V-1
SENSOR LOCATIONS WITH GUST VELOCITY VALUES

NB = No-Build Conditions as of 1995
PP = Proposed Project



Point #	Mean Velocity (mph)	
	NB	PP
1	25.4	22.8
2	19.5	17.2
3	26.4	25.2
4	16.0	24.6
5	21.1	25.9
6	10.2	19.4
7	20.3	22.2
8	13.8	10.9
9	14.8	10.9
10	10.5	8.5
11	11.7	8.9
12	9.9	10.8
13	10.6	12.2
14	9.5	7.8
15	11.5	7.8
16	6.8	13.6
17	7.2	11.7
18	4.5	12.2
19	8.0	9.9
20	11.6	16.7
21	8.0	21.3
22	11.6	16.6
23	11.2	15.3
24	16.7	10.0
25	5.7	10.6
26	8.0	11.9
27	8.0	8.2
28	17.8	18.2
29	16.3	16.8
30	6.1	9.1
31	10.1	22.1
32	17.5	19.5
33	22.2	17.7
34	16.1	14.4
35	13.3	10.6
36	8.8	8.8
37	14.3	10.5
38	20.8	5.1
39	20.7	15.5
40	22.3	16.8
41	15.8	24.0
42	19.1	12.6
43	19.0	19.3
44	15.6	10.0
45	15.1	13.5
46	18.7	21.8
47	14.6	13.8

FIGURE V-2
SENSOR LOCATIONS WITH MEAN VELOCITY VALUES

Boston Common

With the DPIR and DEIR design, the strongest winds along the Tremont Street area will occur south of West Street during the winter and spring months due to northwest winds being deflected downward by Tremont-on-the-Common and nearby structures. Southwest winds prevalent during the autumn, winter, and spring months will cause strong winds north of Tremont-on-the-Common. Conditions in the Boston Common will remain unchanged by the proposed Boston Crossing project.

Washington Street

With the DPIR and DEIR design, the windiest area along Washington Street will be from Essex Street to the south of the Boston Opera House (sensor locations 1 through 7). For the proposed project, the strongest winds for locations 1, 2, and 3 will occur from the south-southwest direction resulting in peak one percent gust velocities of 32.2, 28.7, and 35.4 mph, respectively, during the winter months, whereas the 1995 No-Build condition recorded higher peak one percent gust velocities of 38.2, 31.2, and 37.0 mph during the winter months. The wind environment in the region between the Southern Component of Boston Crossing and the Commonwealth Center project (sensor locations 4, 5, and 7) is dominated by strong north-northwest winds and southeast winds. For the proposed project, the peak gust velocities will occur during the winter months with speeds of 33.7 and 34.1 mph for locations 4 and 5, respectively. For the 1995 No-Build conditions, these peak winds are lower; 28.0 mph for sensor 4 in the autumn months and 32.0 mph for sensor 5 in the winter months. For sensor locations 6 and 7, the peak one percent gust velocities reached 27.9 and 31.2 mph during the autumn months for the proposed conditions as compared to 19.8 and 33.4 mph for the 1995 No-Build conditions during the same months.

From the Boston Opera House to Summer Street (sensor locations 8 through 14) none of the seasonal one percent gust velocities exceeds the BRA's guideline of 31 mph for the 1995 No-Build conditions or the proposed conditions. The strongest winds will occur during the winter and autumn months with the peak velocities ranging from 14.0 to 23.9 mph for the proposed conditions and 11.9 to 29.7 mph for the 1995 No-Build conditions. The areas of Washington Street, north of the Boston Opera House, are and will remain suitable for open plaza, walking, and strolling activities. The areas from West Street to past Summer Street are suitable for open plaza activities as well as open-air activities for both scenarios.

Summer Street

With the DPIR and DEIR design, the peak wind speeds will occur from the south and southeast directions north of Hawley Street and from the north and northwest directions south of Hawley Street to Chauncy Street. The peak one percent gust velocities for the 1995 No-Build and proposed conditions are recorded for the winter and fall months. The values range from 14.0 mph to 28.4 mph for the proposed project and 10.0 to 29.7 mph for the 1995 No-Build condition. The comfort standard levels for the winter and fall months are essentially unchanged from those based upon the annual conditions. The summer and spring months have lower velocities and therefore result in comfort standards slightly better than those of the annual comfort standards.

The area along Summer Street, from Washington Street to Hawley Street, is suitable for open-air restaurants for both scenarios. From Hawley Street to Kingston Street, all but two of the sensor locations recorded wind velocities within the acceptable comfort standards for open plaza, walking, and strolling activities for both scenarios. Sensor location 21 for the proposed project and sensor location 24 for the No-Build 1995 condition fall below the 25 mph 5% annual gust velocity permitted for non-principal walkways and arcade shopping areas.

Chauncy Street

With the DPIR and DEIR design, the strongest wind will be felt during the winter and fall months for the 1995 No-Build conditions. The maximum one percent gust velocities on a seasonal basis range from 12.9 to 28.7 mph for the No-Build condition and from 14.4 to 25.7 mph for the proposed condition.

For the proposed condition, the wind environments from the northern edge of the Lafayette Hotel to Summer Street is dominated by flow that channels between the northern office tower and the Lafayette Hotel and then is deflected into the street level when it encounters the building facade on the opposite side of Chauncy Street. This area remains within the acceptable comfort areas.

All but three of the locations along Chauncy Street meet the wind comfort standards for open plaza, walking, and strolling activities. The other three locations which include locations 28 and 29 for the No-Build 1995 condition and location 31 for the proposed condition are acceptable for activity areas involving non-principal walkways and arcade shopping areas.

Hayward Place and Avenue de Lafayette

The strongest winds will be felt during the winter and fall months. The maximum one percent gust velocities on a seasonal basis range from 16.0 to 34.1 mph for the no-build condition and 15.9 to 31.5 mph for the proposed conditions. The BRA's 31 mph guideline was exceeded on the seasonal basis three times for the No-Build condition and once for the proposed condition.

In the No-Build condition the strongest winds occur from the winds deflected downwind from the Lafayette Hotel, whereas the strongest winds for the proposed conditions occur due to north-northwest winds being pulled around the corner of Washington Street and Hayward Place. Except for sensor location 41, the area remains within the acceptable comfort criteria. Wind speeds at sensor location 41 are above the 1% seasonal gust velocity guideline of 31 mph.

For the eastern portion of Avenue de Lafayette (across from Boston Edison), the acceptable wind levels range from areas suitable for open-air restaurants to open plaza or strolling areas. The wind comfort levels deteriorate near the base of the Lafayette Hotel for the No-Build scenario with acceptable levels ranging from major walkways to non-principal walkways. Location 39 exceeds the overall 1% annual gust velocity but meets the criteria for major walkways based upon a 5% occurrence. For the proposed condition, the location near the Lafayette Hotel becomes suitable for walking and strolling activities. Near the intersection of Hayward Place and Washington Street, the wind comfort level is suitable for major walkways for both scenarios based upon a 5% occurrence but exceeds the 1% annual gust criteria for the proposed condition.

1.4 Inconsistency with Commonwealth Center DPIR and DEIR

The inconsistencies between the Commonwealth Center and Boston Crossing DPIRs and DEIRs wind studies are a direct result of changes in building designs between the testing periods. In the Commonwealth Center DPIR and DEIR, the model used for the Boston Crossing project represented the design shown in the Project Notification Form. The Boston Crossing design, however, was revised for the Boston Crossing DPIR and DEIR, and therefore, the model was revised. In addition, in the Boston Crossing DPIR and DEIR, the Boylston facade of Parcel 30 of the Commonwealth Center project had been altered to represent the current design of the Commonwealth Center project at the

time of submission. The combination of these design changes resulted in significant differences in wind patterns, especially along Washington Street between the Commonwealth Center project and the southern portion of the proposed Boston Crossing project.

1.5 Analysis of Amended Design

Due to the proximity of the southern portion of the Boston Crossing project to the Commonwealth Center towers, the redesign of even one tower has a significant effect on the wind environment in the area. The design modifications made to both the Commonwealth Center and Boston Crossing projects which affect the pedestrian wind environment are:

1) The reduction of height and orientation of the southern portion of Boston Crossing;
2) Re-massing of the northern portion of Boston Crossing;
3) The slimming of the Keith Block tower of the Commonwealth Center project; and
4) The height reduction of the arcade area of Parcel 30 between the hotel and the office tower of Commonwealth Center.

References to "revised No-Build conditions" reflect changes to Commonwealth Center. References to Boston Crossing's amended design reflect the current design as described in the Urban Design Component of the FPIR/FEIR.

The effective reorientation of the southern portion of Boston Crossing with respect to the prevalent wind directions (northeast to southwest) has resulted in fewer high-speed winds being directed to pedestrian levels. Although the height and surface area of the northern portion of Boston Crossing has increased, the remassing allows the higher speed winds to flow over the top of the building and the side of the building. The slimming of the Commonwealth Center Keith Block tower has decreased the amount of flow from the west being directed into Avery Street and south-southeast winds into Washington Street. The height reduction of the Commonwealth Center Parcel 30 arcade has resulted in an additional relief slot for winds directed along Washington Street, therefore resulting in slightly lower wind speeds in the area.

1.5.1 Qualitative Analysis of the Amended Design

The qualitative assessment of wind conditions included the use of smoke visualization as well as erosion particle studies for key wind directions (northwest 330°, northwest 300°, west 270°, and southwest 240°). This qualitative assessment is used to understand flow characteristics and to ensure proper sensor placement for the quantitative analysis.

For the northwest winds 330° (Figure V-3), the strongest winds will occur along Hayward Place as the flow wraps around and down the southern portion of the Boston Crossing project. In the wake of the Lafayette Hotel and the southern portion of Boston Crossing, a large low-pressure zone exists that pulls the flow down Hayward Place. These winds travelling down Hayward Place split and lose energy at Harrison Avenue. Moderate winds, generated along Chauncy Street by rooftop flow over the Lafayette Hotel, are directed onto Chauncy Street. Other areas of predicted moderate winds during northwest winds included Avery Street and along Washington Street from Hayward Place to Essex Street.

As the wind direction changes from 330° to 300° (Figure V-4), the winds along Hayward Place lose some of their strength as the southern portion of the Boston Crossing project directs less flow into Washington Street and more flow over the rooftop of the Specialty Retail Center. The wind speed increases as the flow across the Boston Common is channeled along Avery Street onto Washington Street. Moderate windspeeds are expected along Washington Street south of Hayward Place, and along Summer Street due to winds deflected downward from the northern portion of the Boston Crossing project.

For the west winds 270° (Figure V-5), the strongest pedestrian-level windspeeds are expected to occur along Avery Street, as the winds from the Boston Common, deflected downward from the Keith Block tower, are channeled along the street. At the intersection of Avery and Washington Streets, the flow splits, and travels both north and south along Washington Street and east along Hayward Place.

The westerly wind strikes the western face of Commonwealth Center's Parcel 30 tower, travels down the building face, then wraps around the side and onto Essex Street. All other areas seem to experience light to moderate winds.

For the southwest winds 240° (Figure V-6), strong pedestrian-level winds are expected along Washington Street from the southeast corner of Commonwealth Center's Parcel 30 to Hayward Place and along Essex Street from Washington Street to Harrison Avenue. These winds are produced by winds deflected downward off of the Parcel 30 tower onto Boylston Street. Moderate to light winds are expected in all other areas.

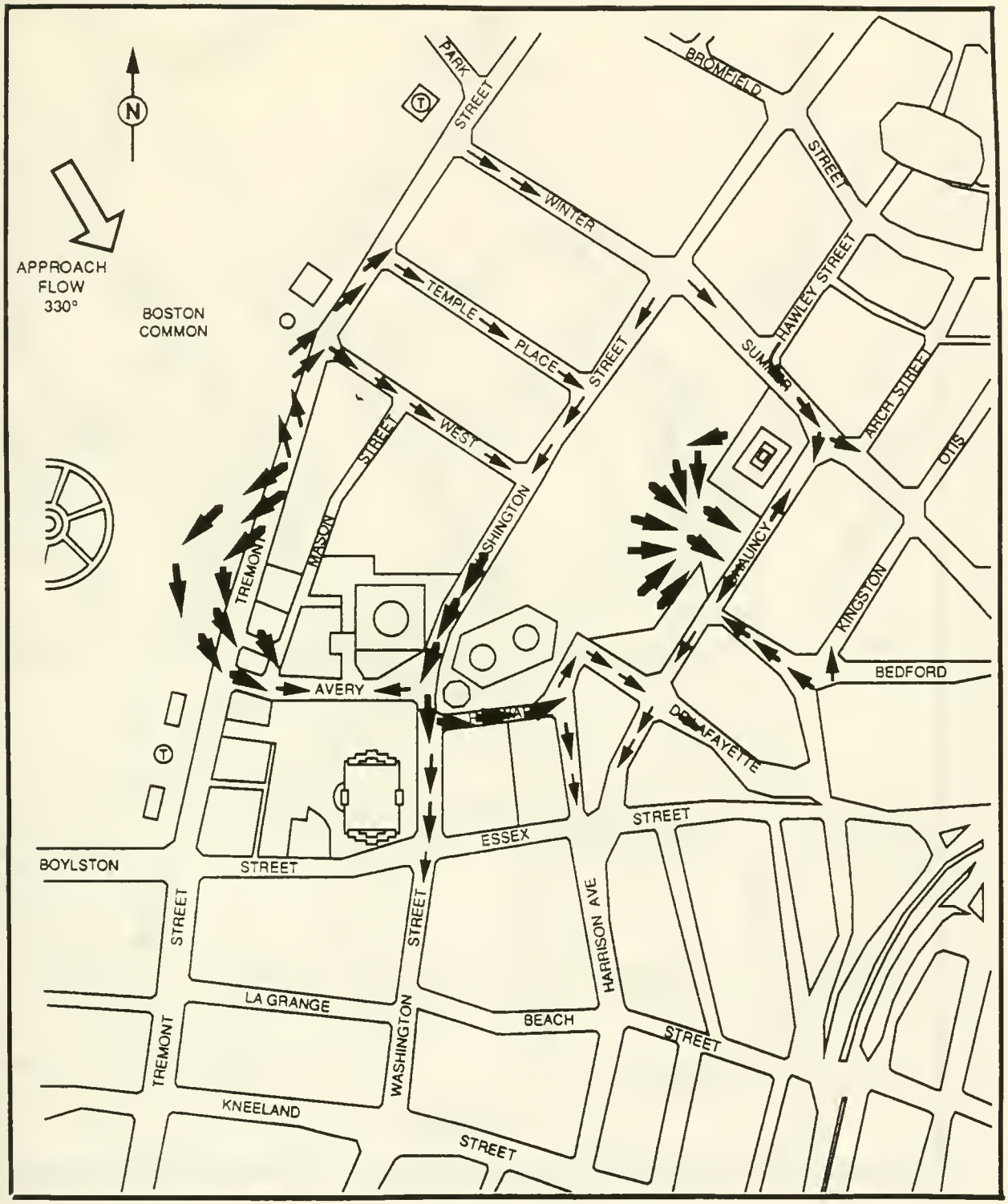


FIGURE V-3
PROPOSED PROJECT - REVISED DESIGN - NORTHWEST WINDS 330°

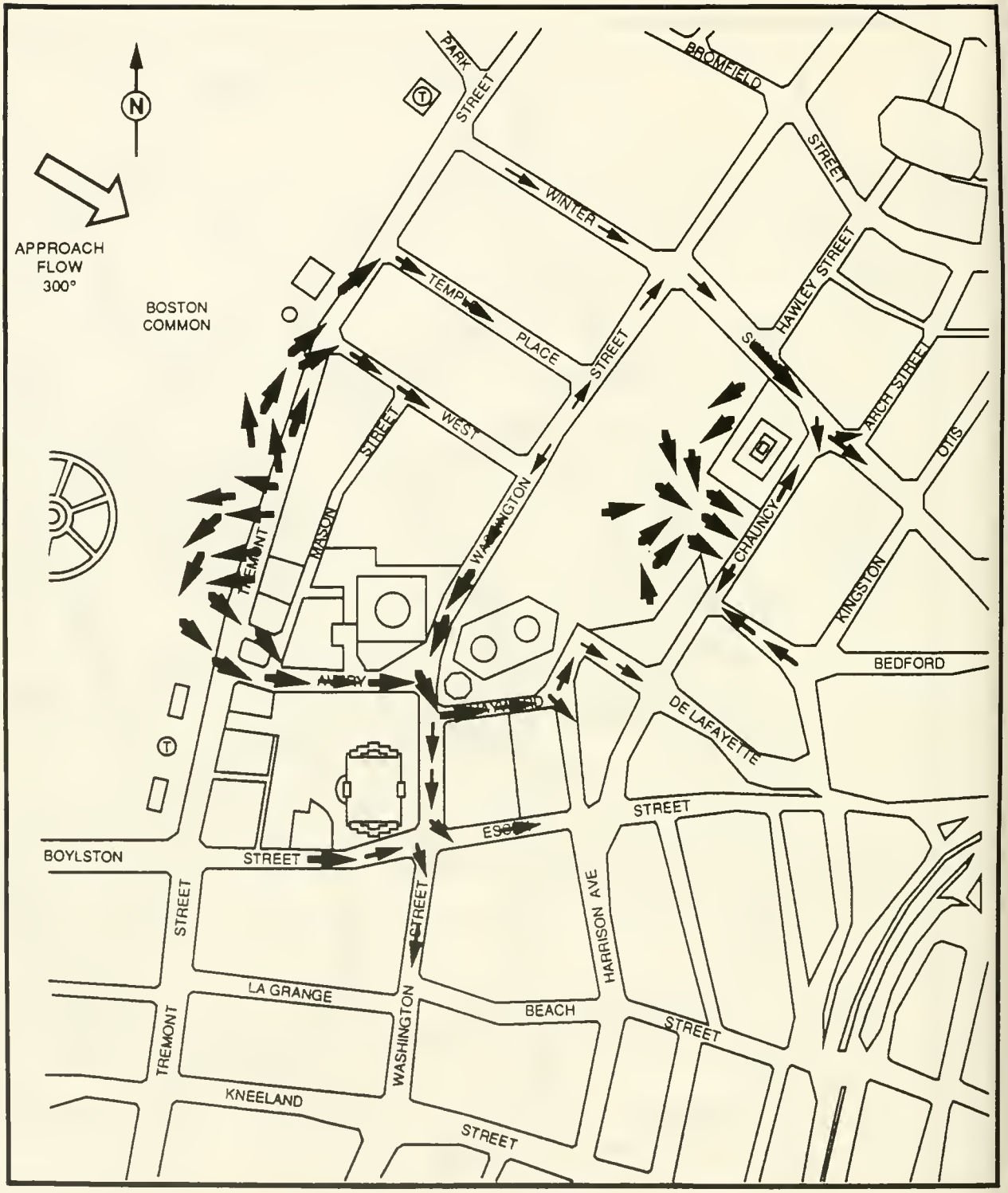


FIGURE V-4
PROPOSED PROJECT - REVISED DESIGN - NORTHWEST WINDS 300°

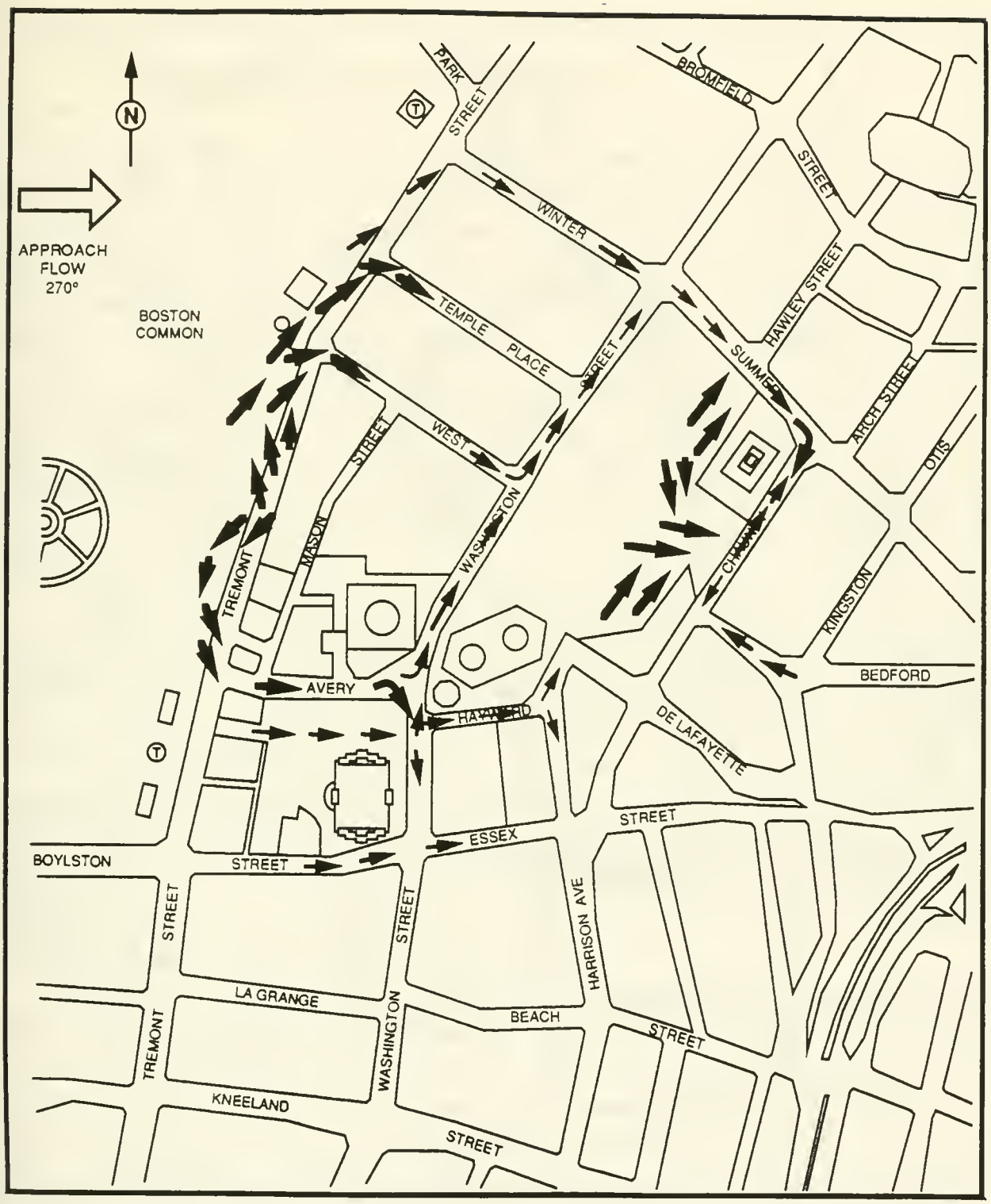


FIGURE V-5
PROPOSED PROJECT - REVISED DESIGN - WEST WINDS 270°

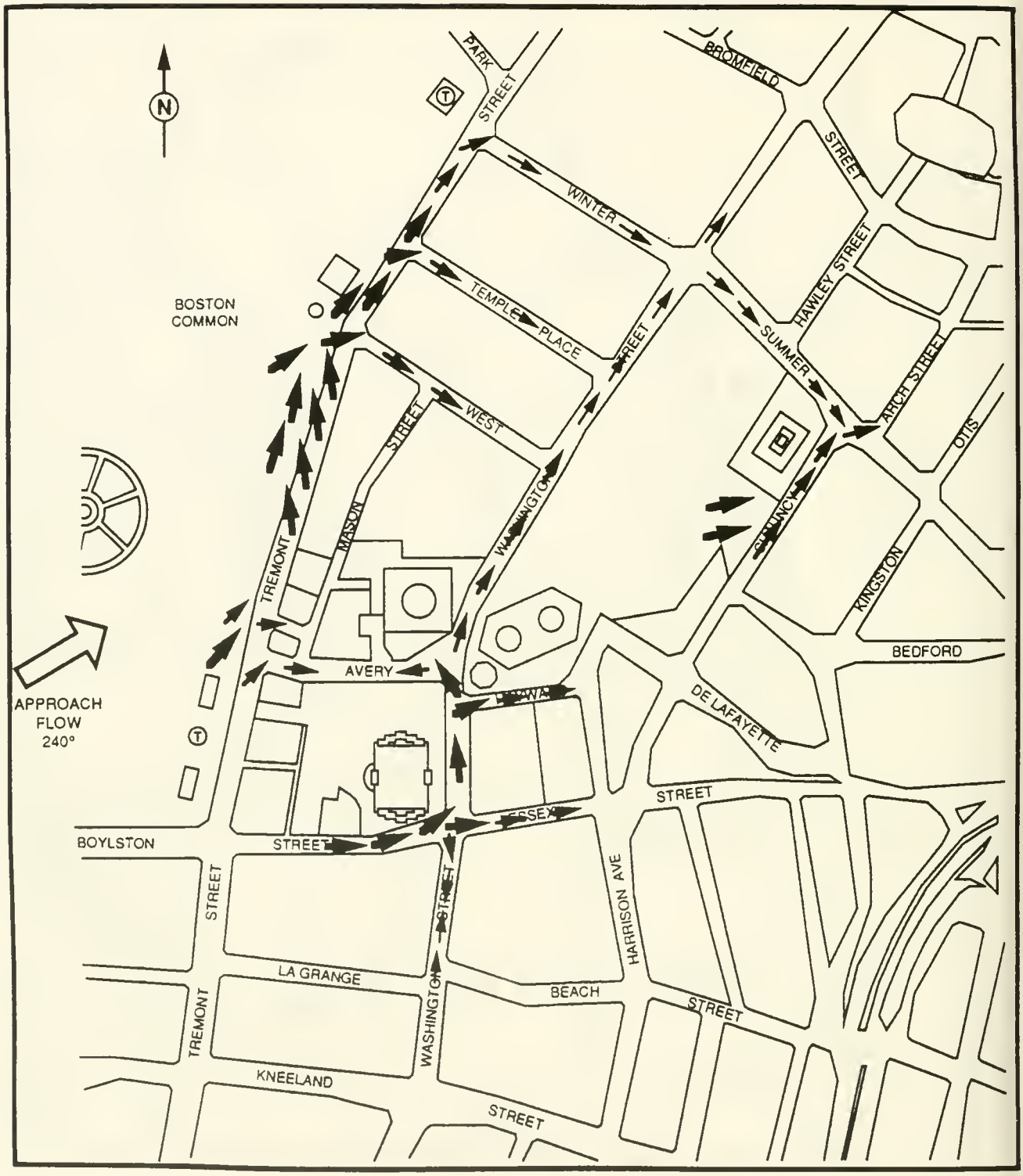


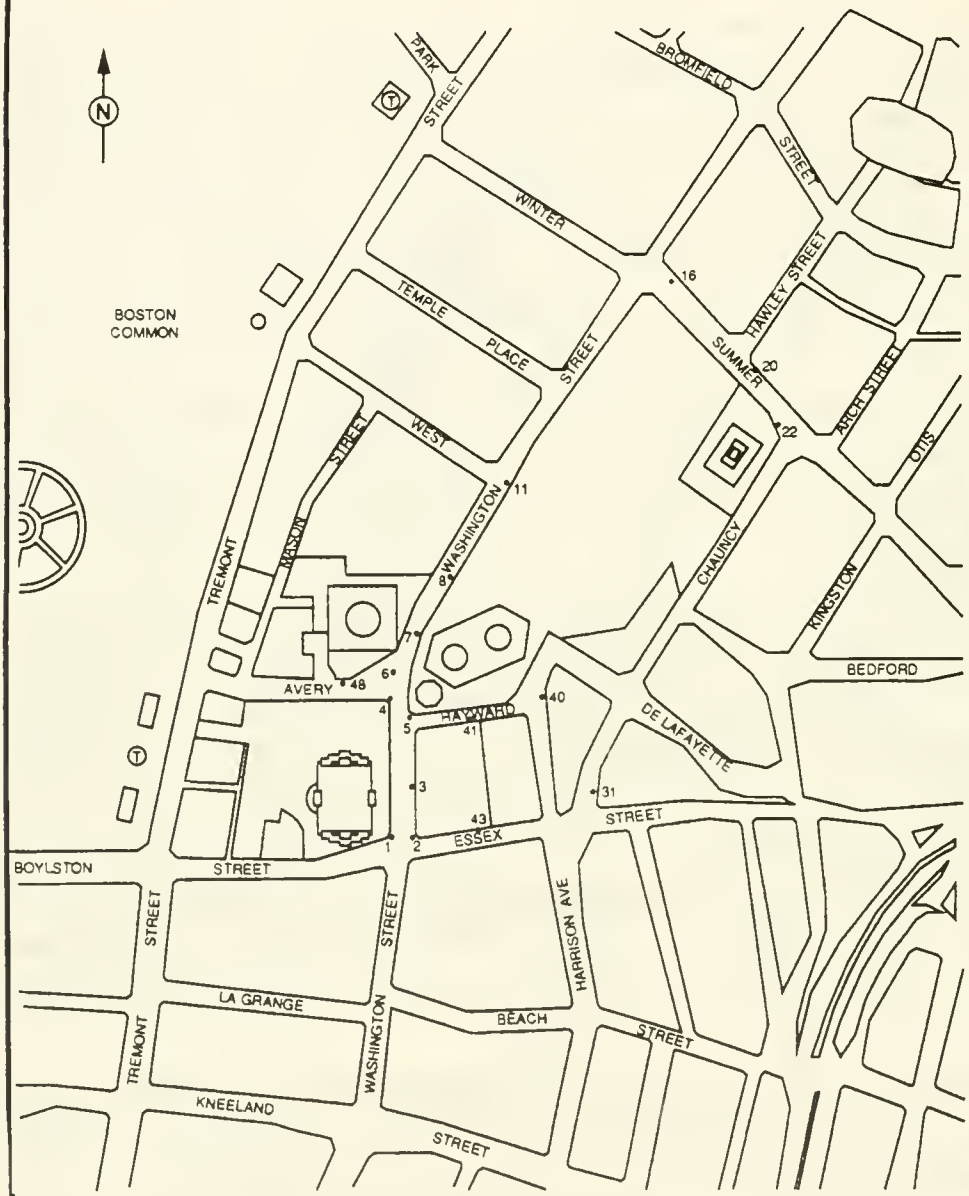
FIGURE V-6
PROPOSED PROJECT - REVISED DESIGN - SOUTHWEST WINDS 240°

1.5.2 Quantitative Analysis of Amended Design

Seventeen sensor locations were retested to measure the effect of the amended design. Sensor 16 was also relocated and retested as required by the PAD. These locations were chosen after careful review of the qualitative analysis which recorded significant changes in flow patterns. Figure V-7 illustrates the sensor locations retested and annual one percent gust velocities for the 1995 No-Build and Proposed Conditions. The two left-hand columns reiterate the DPIR and DEIR results and the two right-hand columns present the results based on the amended design. The shaded numbers represent those sensors in exceedance of the BRA's guideline of 31 mph. Figure V-8 illustrates the annual one percent mean velocities in the same manner. More detailed information concerning the data for the amended design and revised 1995 No-Build conditions are located in Appendix J. The revised 1995 No-Build conditions include the redesign of the Commonwealth Center project.

For the amended design, no sensor location exceeds the BRA's 31 mph guideline, whereas the revised 1995 No-Build condition exceeded the guideline once (32.7 mph at location 1). In the DPIR/DEIR results, the guideline was exceeded three times for both the 1995 No-Build and the proposed project as shown in Figure V-1. The amended design has decreased winds near the intersection of the Commonwealth Center towers and the southern Boston Crossing tower from 11 to 36 percent. Locations 1 and 3, although lower than the BRA's annual gust velocity guideline, remain areas of high-speed flow with winter one percent gust velocities reaching 31.8 and 31.9 mph, respectively. No additional mitigation measures by the Boston Crossing project are effective since the flow field is dominated by Commonwealth Center's Parcel 30 tower.

The amended design results in comfort levels suitable for street and arcade shopping areas for all locations, open plaza and park areas north of Avery Street, and park sitting and open-air restaurants north of West Street. The strongest pedestrian-level winds are expected during the winter and fall months. Comfort levels are virtually the same for each season and remain unchanged from those described in the DPIR and DEIR. The seasonal and annual wind levels for each study location are included in Appendix J as well as the pedestrian safety/comfort wind standards.

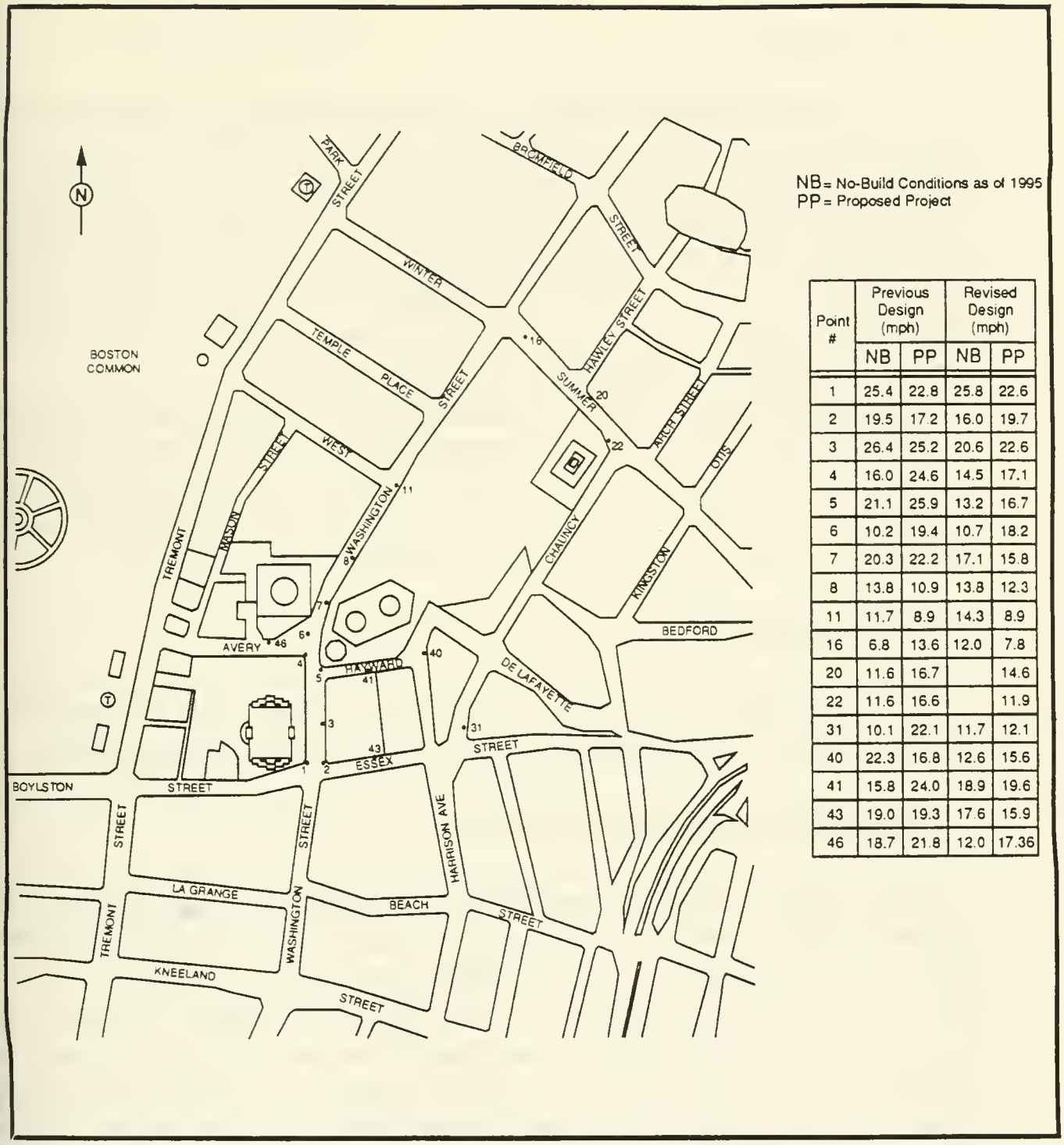


NB = No-Build Conditions as of 1995
PP = Proposed Project

Bold = Exceeds BRA criterion for acceptability limit of pedestrian of 31 mph effective gust velocity 1% of the time on annual basis

Point #	Previous Design (mph)		Revised Design (mph)	
	NB	PP	NB	PP
1	**35.6**	30.0	**32.7**	29.8
2	28.8	26.9	24.0	26.7
3	**34.1**	**33.3**	28.1	29.9
4	25.3	**31.5**	23.1	23.2
5	29.9	**31.8**	20.4	23.3
6	18.4	26.1	19.5	24.2
7	30.5	29.0	24.2	21.9
8	20.0	17.8	21.9	18.6
11	18.3	15.3	22.8	14.9
16	13.3	20.6	19.4	12.9
20	17.9	23.5		22.2
22	18.0	22.8		17.8
31	16.7	30.2	19.2	18.5
40	28.9	23.2	20.7	21.3
41	25.0	29.4	25.8	24.7
43	27.0	26.9	25.4	23.0
46	27.8	27.6	19.8	25.3

FIGURE V-7
SENSOR LOCATIONS WITH 1% GUST VELOCITY VALUES



Point #	Previous Design (mph)		Revised Design (mph)	
	NB	PP	NB	PP
1	25.4	22.8	25.8	22.6
2	19.5	17.2	16.0	19.7
3	26.4	25.2	20.6	22.6
4	16.0	24.6	14.5	17.1
5	21.1	25.9	13.2	16.7
6	10.2	19.4	10.7	18.2
7	20.3	22.2	17.1	15.8
8	13.8	10.9	13.8	12.3
11	11.7	8.9	14.3	8.9
16	6.8	13.6	12.0	7.8
20	11.6	16.7		14.6
22	11.6	16.6		11.9
31	10.1	22.1	11.7	12.1
40	22.3	16.8	12.6	15.6
41	15.8	24.0	18.9	19.6
43	19.0	19.3	17.6	15.9
46	18.7	21.8	12.0	17.36

FIGURE V-8
SENSOR LOCATIONS WITH 1% MEAN VELOCITY VALUES

Summer Street

The area along Summer Street is and will remain calm. As requested, sensor location 16 has been moved to the center of Summer Street, resulting in a decrease of the 1% percent annual gust velocity from 20.6 to 12.9 mph. No sensor location has approached the 31 mph guideline; in fact, the area from Washington Street to Hawley Street remains suitable for open-air restaurants and park sitting. The area from Hawley Street to Arch Street will be suitable for open plaza and park areas (walking, strolling activities). The strongest pedestrian-level winds are expected during the winter and fall months, but no deterioration in comfort standards are noticeable.

Although the massing of the northern component of Boston Crossing has increased since the DPIR and DEIR, the measured one percent gust velocities have decreased for the tested points. The reason for this seemingly contradiction is the effectiveness of the modifications to the massing. The stepped back upper floors and tower structure allow a greater quantity of air to flow over the top of the building and around the sides.

Chauncy Street

Smoke visualization and erosion particle studies have shown that the flow pattern and pedestrian-level winds will decrease or remain the same with the amended design.

Hayward Place and Avenue de Lafayette

At no location does the windspeed approach the BRA's 31 mph guideline. The mitigated design improves the wind environment along Hayward Place, Harrison Avenue and Avenue de Lafayette. Less flow is channeled into Hayward Place by the mitigated design, resulting in one percent annual gust velocities of 10 to 20 percent lower than those reported in the DPIR and the DEIR. The strongest pedestrian-level wind speeds occur for winds from the north-northwest direction along Hayward Place, which produce comfort standards suitable for street and arcade shopping areas during each season. For the revised 1995 No-Build condition, minimal or no changes are measured as compared to the DPIR and DEIR 1995 No-Build condition.

Outdoor Child Care Area

To ensure the proper climate for the outdoor area designated for child care play space, both qualitative and quantitative analyses of the third floor rooftop space between the existing Lafayette Hotel and the northern component of the proposed Boston Crossing project were performed. The results indicate a suitable environment for an outdoor child care facility with a recorded 1% annual gust velocity of 19.2 mph and the 15% annual gust velocity of 8.3 mph, each safely within the comfort standard levels of 31 mph and 14.4 mph, respectively. During the fall months, the 1% annual gust velocity reaches 21.9 mph and the 15% annual gust velocity increases to 9.5 mph. The strongest winds were recorded from the less frequently occurring southeast and northeast wind direction due to flow directed off the faces of the Lafayette Hotel and the northern component.

Other Locations of Interest

The velocity along Avery Street has been lowered in the case of the amended design due to less flow being channeled into the street level by the southern portion of the proposed Boston Crossing project and the slimmed Commonwealth Center Keith Block tower. The one percent annual gust velocity (sensor 46) was 27.6 mph for the DPIR and DEIR proposed condition and 25.3 mph for the amended design. The 1995 No-Build case changed from 27.8 mph to 19.8 mph for the DPIR and DEIR and revised condition. Both the revised 1995 No-Build and amended design have comfort levels suitable for open plazas and park areas (walking and strolling activities). The strongest wind will occur during the winter for the revised 1995 No-Build condition and during the spring for the amended design.

A slight decrease in velocity is measured along Essex Street (sensor 43) for both the amended design and revised 1995 No-Build condition. The one percent annual gust velocity decreased from 26.9 to 23.0 mph for the amended design and from 27.0 to 25.4 mph for the revised 1995 No-Build condition. The pedestrian comfort level is suitable for open plazas and park sitting with the amended design and suitable for walking and strolling activities for the revised 1995 No-Build condition. The strongest winds will occur from the southwest during the winter months for both conditions but no deterioration in comfort levels is expected.

1.5.3 Summary

No sensor location for the amended design surpassed the BRA's 31 mph guideline. The amended design has resulted in vast improvements over the design tested in the DPIR and DEIR. All of the locations, except one (sensor 8 increased less than 1 mph), recorded decreases in velocities. The highest wind speeds are recorded along Washington Street adjacent to Commonwealth Center's Parcel 30 tower. No mitigation measures by the Boston Crossing project would alleviate this condition. Testing of the proposed outdoor child care area between the Lafayette Hotel and the north office tower has shown that the area is suitable for child care play space.

1.5.4 Mitigation

Because of the consistency with the BRA's 31 mph guideline, no further mitigation measures are necessary.

2.0 SHADOWS

This section of the FPIR/FEIR for the Boston Crossing project addresses two issues raised in the BRA and MEPA comments: 1) correction of an improperly stated note in the DPIR and DEIR concerning daylight savings time and 2) explanation and demonstration of extensive and coordinated efforts undertaken by the developers of Boston Crossing and Commonwealth Center to reduce shadow effects on the Boston Common and to meet specific city standards reflected in the Midtown Cultural District Zoning.

2.1 Correction to the DPIR and DEIR

Page V-43 of the DPIR states that for the autumnal equinox and vernal equinox, times have been adjusted to account for daylight savings time. In fact, the shadow studies were adjusted for daylight savings time for the autumnal equinox and the summer solstice.

2.2 Coordinated Action to Reduce Shadow Effects

Through the adoption of a Resolution on June 29, 1989 regarding the proposed project, the BRA found that the project complied with the shadow criteria contained in Section 38-16.1 (the Midtown Cultural District Zoning). The Resolution required that the FPIR/FEIR contain documentation exhibiting that the area of the Boston Common shaded beyond the two-hour limit described in section 38-16.1 of the Boston Zoning Code not exceed one acre for the class of projects described in Section 38-16.1:

> Each Proposed Project shall be arranged and designed in a way to assure that it does not cast shadows for more than two hours from 8:00 a.m. through 2:30 p.m., on any day from March 21 through October 21, in any calendar year, on any single Shadow Impact Area ... that either a) is not cast in shadow during such period on such days by structures existing as of [March 20, 1989]; or b) would not be cast in shadow during such period on such days by structures built to the as-of-right limits allowed by this article, whichever structures cast the greater shadow, provided that an area of the Boston Common not to exceed one acre may be shaded beyond the two-hour period, such area to be calculated as the sum of the areas shaded at the two-hour limit by the Proposed Project and all structures constructed after [March 20, 1989] exceeding the building sizes described in clauses a) and b) above.

As a result of design modifications, the proposed Boston Crossing project, together with the proposed Commonwealth Center project conform to the shadow criteria set forth above. The DPIR and DEIR shadow analysis for the Boston Crossing project indicated that within the time period specified by section 38-16.1 of the Boston Zoning Code, the point of maximum additional shadow beyond the two-hour limit occurs on October 21 at 10:00 AM.

In order to measure the shadow impact of the two proposed projects on the Boston Common at this date and time, as compared to as-of-right development in the area, Sasaki Associates, Inc. developed computer modeling programs to determine shadow effects on the ground plane while taking into account the sloping terrain of the Common. A cooperative effort has been undertaken by the two developers and the Sasaki model is being used for the shadow analyses for both projects. The analysis took into account the earth's orientation in its elliptical revolution around the sun, the latitude and longitude for Boston (42° N. latitude, 71/05' W. longitude); and daylight savings time.

The computer model was prepared to simulate the baseline conditions described in Article 38, and assumes the maximum allowable heights of 125 feet, 130 feet, and 155 feet for the non-Planned Development Area (PDA) buildings within the Midtown Cultural District. These maximum heights, and any existing buildings which exceed these heights were used to develop the as-of-right shadow conditions for October 21 at 10:00 am.

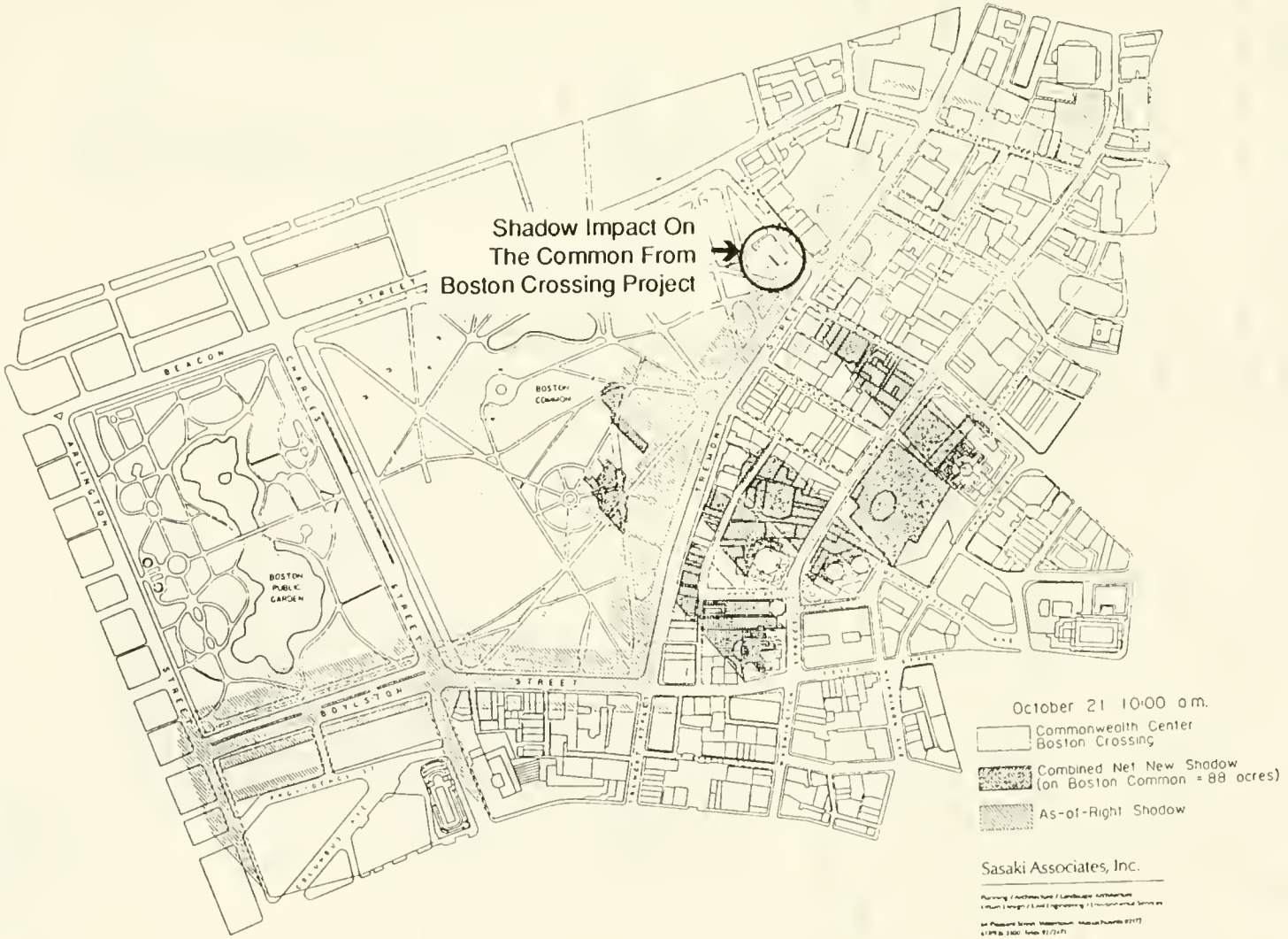
In a series of iterative tests, shadows were then projected for the proposed Commonwealth Center development and the revised design of the proposed Boston Crossing project and net new shadow area was delineated. As the design process proceeded, design modifications were made to each of the proposed buildings to meet the objectives of the City, improve the overall design, and reduce the predicted shadow on the Boston Common. During the early tests, the Boston Crossing project was predicted to contribute 0.1 acre of new shadow on the Common at the test time of 10:00 am, October 21. Design modifications, primarily the reduction in height of the South Tower and the shift of some of that height to the North Tower which is located much further from the Common; and the overall reduction in the sculptural area at the top of both towers resulted in reduced shadow effects of the current design. The estimate of incremental shadow on Boston Common due to the Boston Crossing towers is now approximately 0.01 acre at 10:00 am, October 21.

As is illustrated in Figure V-9, the total area of net new shadow which would be cast by the Commonwealth Center and Boston Crossing projects together is approximately .88 acre, or 38,333 square feet. This resultant shadow is in conformance with Article 38.

3.0 SOLID AND HAZARDOUS WASTES

3.1 Introduction

As described in the DPIR and DEIR, a few of the past site uses such as the manufacturing of felt materials and leather goods, as well as piano making and machine and printing shops are potential sources of contamination. The Bloomingdale's parcel, however, is the only location within the site boundaries where the surficial materials have not been previously removed. Low concentrations of total petroleum hydrocarbons were detected in all three of the groundwater samples obtained from the Bloomingdale's parcel. The concentrations were below the allowable concentration of oil and grease, which are permitted to be discharged into a Class 1 drinking water aquifer under current Massachusetts Department of Environmental Protection (DEP) regulations.



BOSTON CROSSING

FIGURE V-9
Boston Crossing and Commonwealth Center
Shadows On The Common

HMM ASSOCIATES, INC

3.2 Further Subsurface Explorations and Soil and Groundwater Testing

The Preliminary Adequacy Determination issued by the BRA requested that the results of further subsurface explorations and soil and groundwater testing be included in the FPIR/FEIR.

A subsurface exploration program was conducted at the site from mid-April through June 1989. Eleven test borings [Boston Crossing (BC)-series] were drilled to further define the subsurface soil and groundwater conditions. Five of the test borings (BC6 to BC10) were located within the limits of the existing Jordan Marsh building. The remaining six borings, (BC1 to BC5 and BC11) were located in or adjacent to the Hayward Place parcel. The location of these test borings are indicated on Figure V-10. Eight groundwater observation wells were installed following completion of the test borings.

As part of the subsurface exploration program, soil samples were obtained and screened for the presence of volatile organic compounds. From those samples exhibiting elevated readings during screening, laboratory samples were selected and tested at a DEP approved laboratory. Two representative soil samples were tested for Volatile Organic Compounds and none were detected. One soil sample representative of an urban site was tested for acid and base/neutral compounds. The results of the test are as follows:

Location	BC11
Sample	S3
Date	5/12/89
Medium	Fill
Depth	4.6 - 6.6
Acid and Base/Neutral Compounds (ppb):*	
Acenaphthene	520
Dibenzofuran	350
Fluorene	490
Phenanthrene	5,300
Anthracene	1,100
Fluoranthene	5,000
Pyrene	7,100
Benzo(a) Anthracene	2,900
bis (2-Ethylhxyl) Phthalate	370
Chrysene	2,600
Benzo(b) Fluoranthene	4,100
Benzo(a) Pyrene	2,300
Indeno(1,2,3-cd) Pyrene	1,200
Dibenz(a,b) Anthracene	500
Benzo(g,h,i) Perylene	1,300
TOTAL	35,130

* Parts per billion.

BOSTON CROSSING

FIGURE V-10
Test Borings

BC 7 Designation and approximate location of borings made for Campeau Corp., Boston Crossing Development. By Guild Drilling Co., Inc. during the period April to June 1988.

OW Indicates an observation well installed in the completed boring.

HMM ASSOCIATES, INC

One soil sample was tested for PCBs and Pesticides and none were detected. Two soil samples were tested for Eptox Metals and the results of the test are as follows.

Location	BC5	BC11
Sample	S6	S4
Date	6/14/89	5/12/89
Medium	Fill	Fill
Depth	11.0 - 13.0	6.6 - 8.6
Eptox Metals(ppm):*		
Arsenic	ND**	ND
Barium	0.17	0.3
Cadmium	ND	ND
Chromium	ND	ND
Lead	0.05	0.1
Mercury	ND	ND
Selenium	ND	ND
Silver	ND	ND

Five soil samples were also tested for Petroleum Hydrocarbons. The total petroleum hydrocarbons measured by the infrared method, ranged from 129 parts per million (ppm) at one location, less than 160 ppm at two locations, 660 ppm at a fourth location, and 4,600 ppm at the fifth location. Oil and grease at levels of 90.2 and 81.9 parts per million were detected in two samples tested. Two samples were also tested for petroleum identification. In one sample, no petroleum was detected and in the other, 140 (ppm) was measured, however, the type of petroleum could not be identified.

Eleven groundwater samples were obtained from the observation wells installed during the exploration programs. These samples were tested for various chemical constituents. Of the eight groundwater samples tested for volatile organic compounds, none were detected in six of the samples. Following are the results of the two samples showing volatile organic compounds. It should be noted that the three samples were obtained at the same location on different dates.

---

* Parts per million.

** None detected.

Location Medium: Groundwater	BC7	BC7 (1) (Resample)
Volatile Organic Compounds (ppb)*		
Trichloroethylene	3.6	ND
Tetrachloroethylene	5.3	9.5
1,2-Dichloroethylene	4.2	4.5
Benzene	18	ND
Toluene	21	ND

Of the three groundwater samples tested for acid and base/neutral compounds, none were detected, and for the two samples tested for PCBs and pesticides, none were detected. Two of the three samples tested for priority pollutant metals showed .0008 and .0007 parts per million of mercury and no mercury was detected in the other sample. Of the three groundwater samples tested, .01 parts per million of zinc was detected and no zinc was detected in the other two samples. No petroleum hydrocarbons were detected in any of the four samples tested for petroleum identification. Of the three samples tested for total hydrocarbons by infrared, the levels ranged from 1.6 to 3.3 parts per million.

Chemical analyses conducted on the test boring soil samples revealed the presence of petroleum hydrocarbons. The presence of this type of compound is typical for urban fill materials. No existing on-site source of petroleum products, however, was identified. The chemical analysis of eight groundwater samples indicated volatile organic compounds present in the water at only one location on-site, observation well (OW) BC7. The compounds measured slightly exceed the U.S. EPA maximum contamination levels. However, there is no known drinking water supply or groundwater well in the vicinity of the subject site.

In summary, the type of compounds detected at the site are generally consistent with the types and concentrations of compounds found in soil and groundwater samples collected from urban sites. Based on the chemical analyses and explorations completed to date, it is not anticipated that the Department of Environmental Protection (DEP) will require remedial action at the site. It is anticipated that the types and concentrations of the compounds detected at the site do not constitute a present or potential threat to human health, safety or welfare or to the environment if retained at the site.

---

* Parts per billion.

3.3 Commitment to Recycling Operational Waste

Solid waste generated by the operation of the proposed Boston Crossing project will be removed from the loading areas by independent contractors and recyclers. The proponent is planning to implement a waste recycling program for the proposed Boston Crossing project similar to the program already in existence at the Jordan Marsh Department Store. Boston Crossing will participate in waste reduction and waste recycling programs operating in the Boston region when the project opens. For example, waste paper may be separated, baled and picked up every day or every other day by recyclers. Metal refuse may be held for metal dealers and only the remaining garbage would be compacted and removed by independent contractors.

4.0 NOISE

4.1 Introduction

The noise analysis conducted for the DPIR and DEIR showed that noise due to increases in traffic volumes will not noticeably differ from existing noise levels. The Preliminary Adequacy Determination issued by the BRA, however, requested additional information concerning noise impacts resulting from HVAC equipment for the proposed Boston Crossing project. The following is a description of the potential impacts.

4.2 HVAC Equipment

Mechanical equipment for the Boston Crossing project is anticipated to be sufficiently physically and structurally separated from building occupants, exterior open spaces, and pedestrians. Location and design of mechanical rooms and systems will serve to mitigate potential noise impacts associated with HVAC equipment.

Depending upon the outcome of a feasibility study, it is anticipated that a chilled water plant and high efficiency induced draft cooling towers will be located on the roof of the Jordan Marsh store. Noise attenuation for this equipment will be provided depending upon an analysis conducted by the acoustical consultant. It is anticipated that a central fan room will be located midrise in the office towers at approximately the sixth or seventh floors. Mechanical penthouses will be located at the top of the office towers and on the

roof of the specialty retail center. Supplementary cooling towers, associated equipment and penthouses are anticipated to be located at the top of the office towers. All of these systems will be reviewed for acoustical considerations by the acoustical consultant. The HVAC equipment will be similar to the types of HVAC equipment used in other downtown high-rise buildings, and, as such, is not expected to have any significant noise impacts. In addition, there are no residences or other sensitive receptors in close proximity to be impacted by possible HVAC equipment noise.

5.0 GEOTECHNICAL AND GROUNDWATER IMPACTS

5.1 Introduction

In response to comments received on the DPIR and DEIR, the following section provides additional information concerning pre-construction inspection of buildings adjacent to the Boston Crossing project and the performance criteria for the lateral earth support systems. The requirements of the Boston Water and Sewer Commission for a permit to allow dewatering discharge into the city's storm drain system are also described.

5.2 Pre-Construction Inspection

The proposed development within the area of the Jordan Marsh Department Store and the existing Lafayette Place will require limited excavation and little change to the existing below-grade structural configuration. Within the Bloomingdale's site area a multi-level below-grade parking garage is proposed, requiring an excavation up to 95 feet in depth. As presented in the DPIR and DEIR, the construction techniques and procedures will be chosen and undertaken to control associated ground movements. As part of those procedures, a monitoring program will be established to measure ground and structure movements in the area of the excavation. In addition, prior to the start of construction, a pre-condition survey of adjacent buildings and structures will be conducted in order to establish a reference baseline.

5.3 Performance Criteria and Remedial Measures

Predictions of wall performance will be developed by both theoretical and empirical methods in order to establish wall performance criteria for various stages of construction. Conformance with performance criteria will ensure that adjacent structures and buildings will not be damaged. The monitoring data will be compared to the predictions and performance criteria in order to determine if the construction methods and procedures are appropriate or need to be modified.

There are numerous procedures that can be implemented if wall performance is unacceptable. These include, but are not limited to:

- Use of additional temporary internal supports (rakers or struts);
- External support (tiebacks);
- Modified excavation procedures whereby the excavation below the lowest installed brace is reduced; and
- More rapid installation of wall support members in conjunction with a modified excavation sequence.

Experience in the Boston area with deep excavations in similar soil types indicates that an excavation of this size and depth can be successfully completed if the control of excavation procedures and bracing sequence are maintained. Detailed monitoring of excavation performance during construction will be undertaken in order to provide a mechanism to continually evaluate the wall performance and allow modifications to construction procedures to be implemented.

5.4 Boston Water and Sewer Commission Requirements for Permit to Allow Dewatering Discharge into the City's Storm Drain System

Although the amount of dewatering will be kept to a minimum by the use of a concrete "slurry" wall to cut off water flows from the surrounding area into the site, it is anticipated that dewatering of the Bloomingdale's site will be required to allow construction of the proposed below-grade garage structure. This will require the BWSC's permission to discharge this water to their system adjacent to the site. In order to obtain

the right to discharge, it is anticipated that a temporary separation facility will be required to remove any suspended solids from the discharge. The design of this system will be dependent on the volume of water that is encountered during construction and the method used to remove it. In accordance with the BWSC standard practice, this system will be designed and submitted to the BWSC for approval prior to the start of dewatering by the contractor for the project.

6.0 AIR QUALITY

6.1 Tropospheric Ozone Analysis

In response to concerns raised by the Conservation Law Foundation, impacts of the project on tropospheric ozone were examined. Currently there are no Department of Environmental Protection approved models to predict ozone levels in relation to changes in traffic patterns. Further, ozone is a regional pollutant; it and its precursors can be transported on a global scale. Therefore, it is impossible to determine the impact of one development project on regional ozone levels. The proponents of Boston Crossing, however, will be implementing a number of programs to encourage mass transit ridership and car and van pooling. Such measures would be expected to decrease automobile use and, hence, on the city wide scale, have the positive effect of reducing ozone precursors, assuming no other changes in regional population, regional traffic levels, and transport of pollutants from other areas.

A mesoscale (regional) analysis of emissions was performed for non-methane hydrocarbons (NMHC) and nitrogen oxides (NO_x), both of which are precursors of tropospheric ozone. Total emissions of NO_x and NMHC for the Build year 1995 with and without the project were determined from motor vehicles on arterial roadways for Boston. Results are presented in Table V-3. The technical basis and the computations on which these results were developed are provided below in Section 6.1.1.

Results demonstrate a one percent increase of the hydrocarbon and nitrogen oxide emission burden due to the project for the Boston region. Actual burden increase is expected to be less because not all traffic attracted by the Boston Crossing project would be new to the roads examined. For example, many of the cars attracted to the retail shopping at Boston Crossing would drive somewhere else to shop if Boston Crossing did not exist. It was assumed, however, that all automobiles going to the site were new trips.

TABLE V-3

1995 NOx AND NMHC PRODUCTION (TPY) FOR SIX BOSTON ARTERIAL ROADS

Pollutant	No-Build	Build
NO_x	899.14	909.87
NMHC	667.11	675.06

6.1.1 Mesoscale Analysis

Total yearly pollutant emissions for six Boston arterial roadways were calculated for 1995 No-Build and Build cases. All traffic generated by the project was conservatively assumed to be new traffic and not previously considered in the 1995 projected traffic on the arteries. Table V-4 below shows areawide traffic volumes, or average daily traffic (ADT) and miles of road in the study area. The method used for calculating total yearly pollutant emissions and assumptions are included in Appendix K.

6.2 Coordination of Mitigation Measures

The developers and the traffic and air quality consultants for the Commonwealth Center, One Lincoln Street, and Boston Crossing projects have met to coordinate traffic and air quality mitigation measures in the projects' study areas. Due to the close relationship between traffic conditions and air quality, traffic mitigation was closely coordinated. The developers of Boston Crossing, Commonwealth Center, and One Lincoln Street have worked together and are in agreement on the proposed mitigation measures for traffic conditions. The proposed mitigation is included in Section 8.0 of the Transportation Component, Chapter IV.

6.3 Traffic Signal Optimization

The traffic and air quality analyses considered optimization of each individual intersection. Actually implementing optimization is a mitigation measure.

TABLE V-4
AREA-WIDE TRAFFIC VOLUMES

Roadway Segment	Direction	No-Build ADT	Build Additional Vehicles	Length of Roadway Segment
Route 1	NB	60,700	458	3.35
(I-93 to Rte. 16)	SB	55,500	458	
Interstate 93	NB	63,600	595	2.35
(To Rte. 38)	SB	66,900	595	
Storrow Drive	EB	62,200	458	1.20
(Mass Ave. to Longfellow Bridge)	WB	56,300	458	
Interstate 90	EB	67,400	915	2.15
(Allston Tolls to Copley Square)	WB	65,200	915	
Southeast Expressway	NB	95,500	1785	2.65
(Columbia Ave. to Neponset Circle)	SB	95,800	1785	
Route 1A	NB	27,400	183	3.10
(Rte. 16 to Airport)	SB	28,000	183	

BOSTON CROSSING

VI. URBAN DESIGN COMPONENT

VI. URBAN DESIGN COMPONENT

1.0 INTRODUCTION

Current Project Description

The Boston Crossing design subject to review for this Final Project Impact Report/Final Environmental Impact Report (FPIR/FEIR) has been the focus of extensive review by many city agencies, community groups and interested citizens. A broad-based and committed city review team including Boston Redevelopment Authority (BRA) staff, BRA Midtown Cultural District staff, Boston Landmarks Commission staff, Transportation Department staff, Public Works Department staff, and others have spent innumerable hours in consideration of design improvements which would better meet city and community objectives. Citizen groups including the Midtown Cultural District Task Force, Boston Society of Architects, Boston Preservation Alliance, a number of key Open Space organizations, and State agencies including the Massachusetts Historical Commission staff and MBTA construction, real estate, and development staff and their designers and engineers have clearly outlined their particular concerns and worked with the development and design team to resolve possible issues. Continuing review will certainly be a part of the more detailed design phases to follow.

Urban Design issues were of great importance to the review teams listed above and focused the discussion on eight key areas:

- Overall Character - To assure an appropriate level of variety, interest and texture in the detailed design of Boston Crossing - especially concentrating on the lower five floors of each project component.

- Street-Level Activity - The excitement and energy of the project's intensive retail activity to be felt on all sides of the project and to be accessible from the maximum number of points along each facade.

- Relationship Between Towers in District - To maximize the distance between towers on the site and in the District, with special attention to the complementary relationship of the South Tower of Boston Crossing (over Bloomingdale's) to the two towers of Commonwealth Center.

- o Slimness of Towers - Compliance with the maximum average tower floorplate of the new area zoning and attention to design opportunities to emphasize the apparent slimness of the towers.

- o Reduced Height for South Tower - Policy decisions to emphasize the height of the North Tower and reduce the height of the South Tower.

- o Reduced Shadow on Boston Common - Development of tower massing that has little or no added shadow on the Boston Common at key times of day.

- o Usable Public Open Space - Greater attention to opportunities for open space improvements at project entries, on sidewalks, at edges and in interior open spaces.

- o Celebration of Cultural District - Attention to all art forms which could enhance and accentuate the location of the project at the heart of the Midtown Cultural District.

As noted, the current design for Boston Crossing reflects an intensive effort by the project's design and development team to respond to the issues discussed above. Key features of this current design include:

Coordinated Design

A primary objective of the design team continues to be a coordinated design in which all parts - though different in detail, massing, or materials - are complementary, appropriately interconnected and will benefit from the synergy of a true mixed-use development.

South Tower/500 Washington Street (Over Bloomingdale's)

The new design approach to the South Tower features a slimmer tower with an average floorplate of approximately 22,500 square feet above a height of 125 feet and reconfigured lower office floors with generous setbacks from the surrounding streets. The building massing appears as two slim masonry towers that are connected by a light, glassy element.

Sculpting of the top of the building adds minimal additional height and is used to emphasize the "two tower" appearance of the structure. The overall height of the tower is reduced as compared to the DPIR and DEIR to a zoning height of approximately 392' to the top of the penultimate occupied floor, and approximately 405' to the top of the last occupied floor. As a result of these several design changes, the South Tower contributes no new shadow to the Boston Common at the critical time of day for zoning code calculation.

North Tower (Over Jordan Marsh)

The new design for the North Tower establishes this tower as a beacon for the Midtown Cultural District. Set back to the maximum extent possible from surrounding streets, this tower has three additional occupied floors as compared to the DPIR and DEIR design. As a result, the zoning height of the North Tower, to the top of the penultimate occupied floor, is approximately 462', and approximately 475' to the top of the last occupied floor, which is consistent with zoning requirements. At the same time, the tower now establishes a consistent design character with the top of the building as an integral part of the full tower design. Tower floorplates above 125 feet have been reduced to an average of approximately 22,500 square feet. Elimination of former designs for a more independent sculptural top to the tower has also served to minimize shadow on Boston Common.

Base Components

The lower five to seven stories of the Boston Crossing project will play a tremendously important role in public perception and enjoyment of the area and have therefore received particular attention in this more detailed phase of design. The sense of interest, variety and pedestrian orientation has been reinforced by the design of distinct project components for Jordan Marsh, Bloomingdale's, individual retail entries, major access points through the project, offices entries, and so forth. Facade design, the choice and palette of materials, unique design details, variety in heights and symbolic entry canopies are all a part of this evolving design effort.

Through-Block Connections

The concept of through-block connections to reestablish historic circulation routes and the pattern of the historic ladder blocks has been further developed with the design of interior streets in the retail center. Special attention has been paid to Opera Way - the internal east/west passage through Bloomingdale's - which has now been expanded from a one-story walkway to a two-story-high arcade on the scale of many well-known European shopping arcades.

Open Space Opportunities

Open space in this project consists of the dense, urban-scale sidewalks surrounding the project - similar to the historic street pattern of the District - major entryways to the various project elements, interior pedestrian passageways and the intersections of such passageways. Continuing design efforts by project planners, architects and landscape architects have coordinated with ongoing city efforts at streetscape design and have, within this context, addressed the issues of expanded sidewalks, lighting, paving and street furniture, and special opportunities for performance space or artist participation.

The discussion which follows analyzes the new Boston Crossing design in light of the specific questions raised in the BRA scoping letter for the FPIR and the questions noted in conducting the general public review of the DPIR and DEIR. All of these are covered under the four general headings of Massing, Streetscape, Open Space, and Facades. Graphics have been provided to illustrate the current design scheme and therefore the specific design response to issues raised. These plans, sections and elevations have also been made available to the BRA at a larger scale for more detailed review.

2.0 URBAN DESIGN ISSUES

2.1 Massing

2.1.1 Alternative Massing Configuration

Primary changes in massing as discussed in the preceding project description have been: (a) to reduce the average tower floorplate above 125 feet in both towers to an average of 22,500 square feet with the most dramatic improvement shown in the South Tower over Bloomingdale's; and (b) to reduce to a minimum any shadow impacts on the Boston Common which are explained and illustrated in Section 2.0, Shadows, Chapter V, the Environmental Protection Component. Figure VI-1 illustrates changes in project design made at the time of the BRA approval of the Planned Development Area.

2.1.2 Increased Ratio of Height to Perceived Width

Changes in the tower massing and in the specific design approach have served to emphasize the reduced width of the towers. Design elements contributing to this change include:

- Integrated design of the base, middle, and top of the North Tower emphasizing the height of the tower and its smaller upper floors and top;

- Configuration of the South Tower as two slim towers with a tall, glassy element connecting the towers;

- Reconfiguration of the top of the South Tower to emphasize the two tower theme; and

- Special attention to views of the South Tower from the State House, the expressway approaching the City from the south and from the surrounding streets.

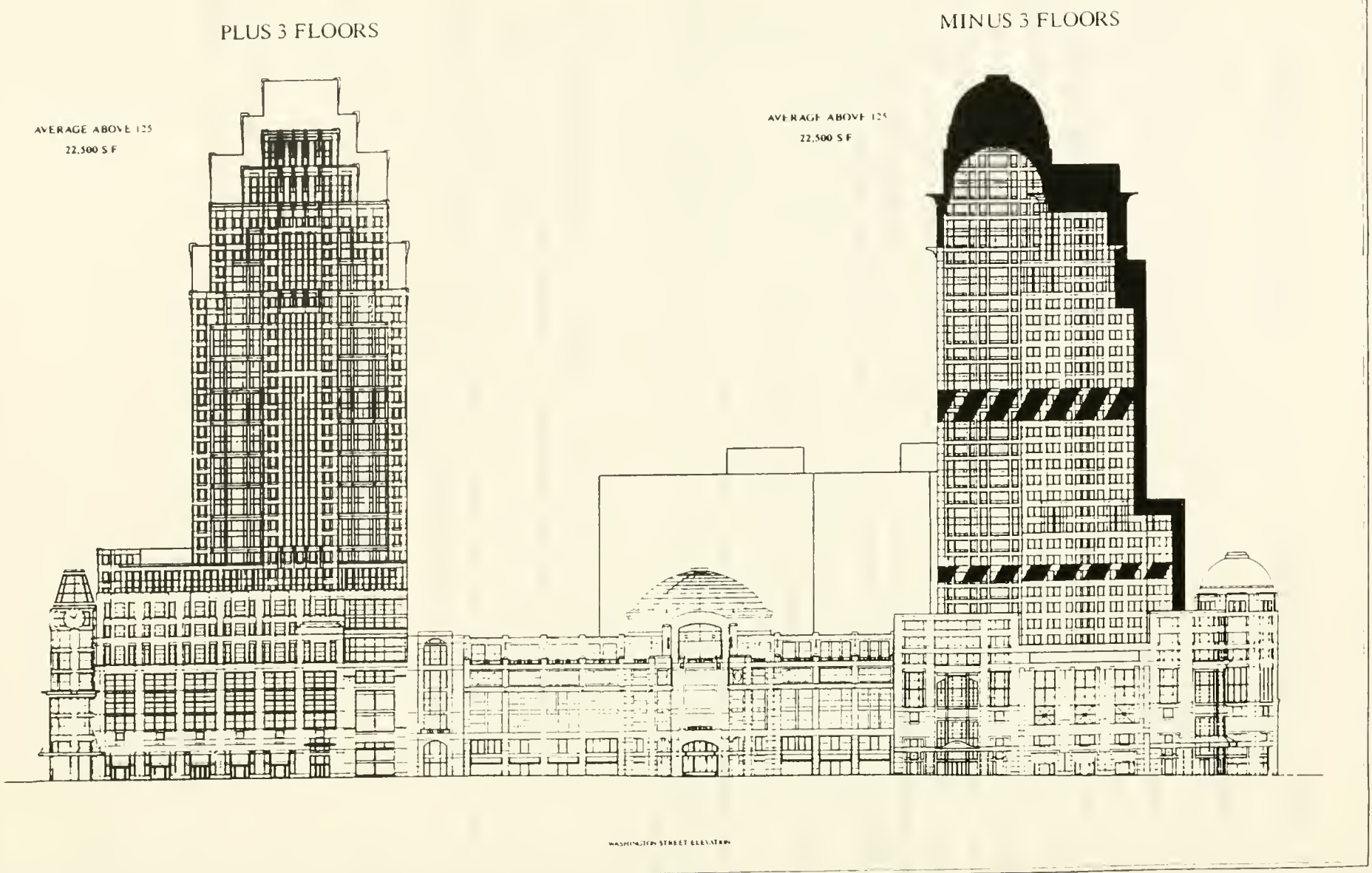


FIGURE VI-1 CHANGES IN PROJECT DESIGN AT TIME OF PLANNED DEVELOPMENT AREA (PDA) APPROVAL, JUNE 1989

2.1.3 Distance Between Towers

The distance between towers in the Midtown Cultural District has been the subject of extensive review and discussion with the BRA, the Boston Society of Architects and the developers of the neighboring Commonwealth Center site. On the Boston Crossing site the design calls for setting back the towers to the maximum extent possible from Washington Street and from Summer Street, therefore achieving the greatest possible separation from the Commonwealth Center towers and from the 101 Arch Street tower across Summer Street.

As compared to the DPIR and DEIR scheme, some added distance from the Commonwealth Center towers is achieved through redesign of the Boston Crossing South Tower. In addition, lower portions of the South Tower (floors 6 through 11) have been pulled back from the surrounding streets and redesigned so as to have a reduced presence from the pedestrian point of view and to give more "breathing room" between the towers. Current distances between upper portions of the towers are as follows: 160 feet between the North Tower and the 101 Arch Street tower; 262 feet between the Boston Crossing South Tower and Commonwealth Center's South Tower; and 105 feet between the Boston Crossing South Tower and Commonwealth Center's North Tower. The two Boston Crossing towers are 390 feet apart. Figure VI-2, Area Site Plan, illustrates the distance between the towers.

2.1.4 Variety of Massing of Base Elements

As discussed in the project description in the introduction to this chapter, significant design attention has been paid to the development of the base portion of the Boston Crossing buildings. The updated project elevations, as shown in Figures VI-3 - VI-6, illustrate the evolution of this design and the elements that contribute to variety and interest. These include variations in:

- o Streetwall Height and Setbacks
- o Facade Design
- o Facade Materials, Textures, Colors
- o Distinctive Entry Designs

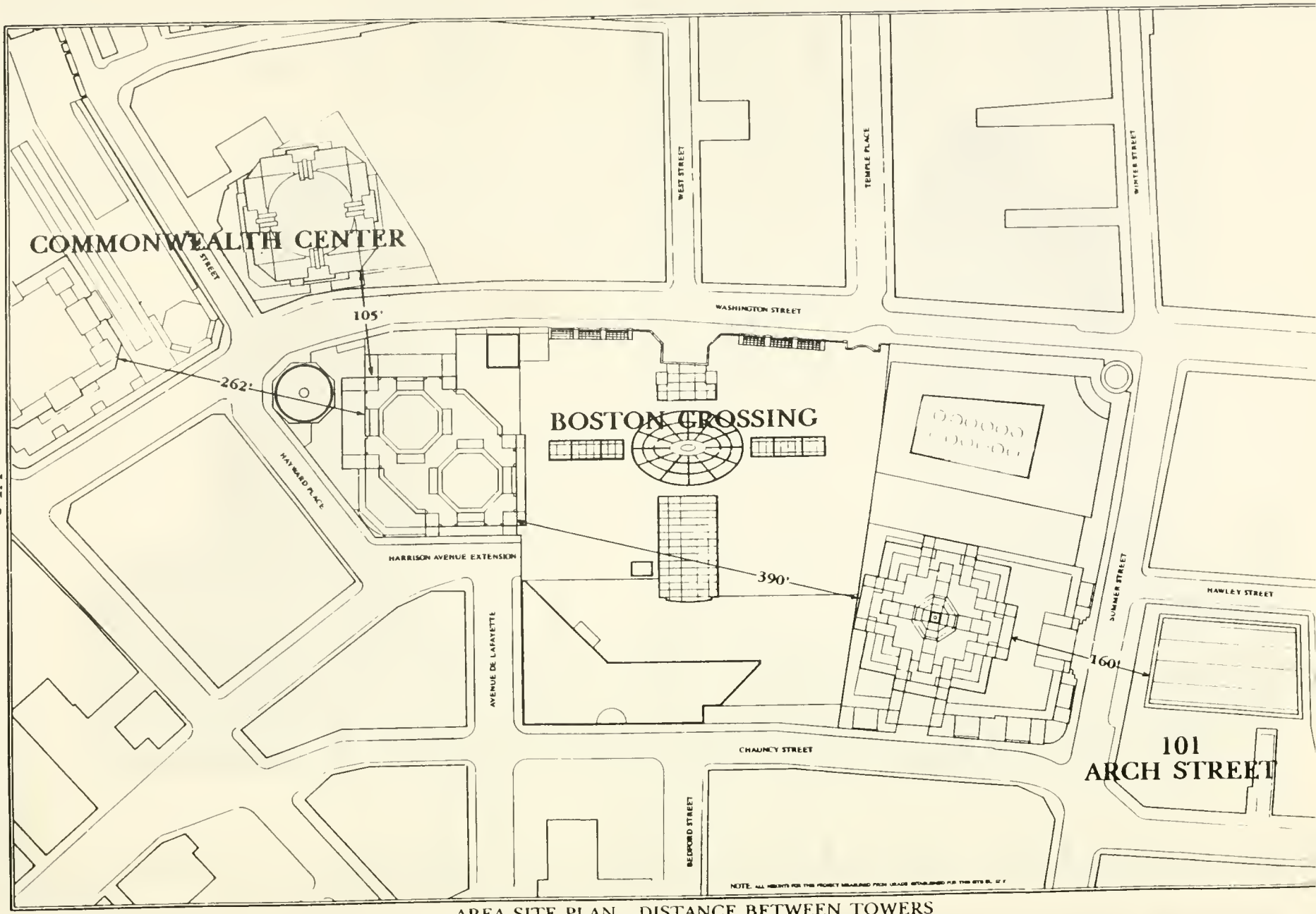


FIGURE VI-2

AREA SITE PLAN - DISTANCE BETWEEN TOWERS

BOSTON CROSSING

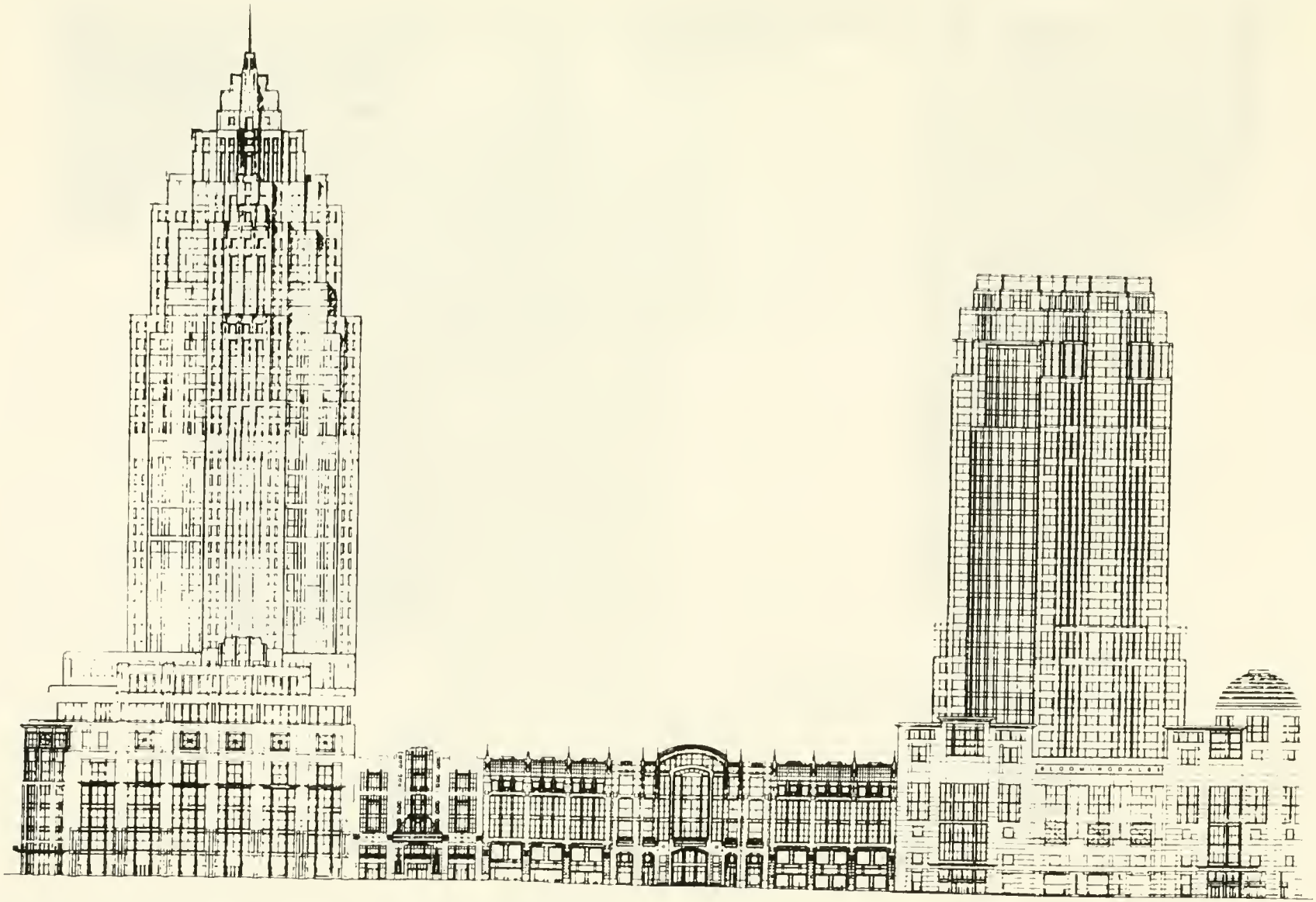


FIGURE VI-3

WASHINGTON STREET ELEVATION

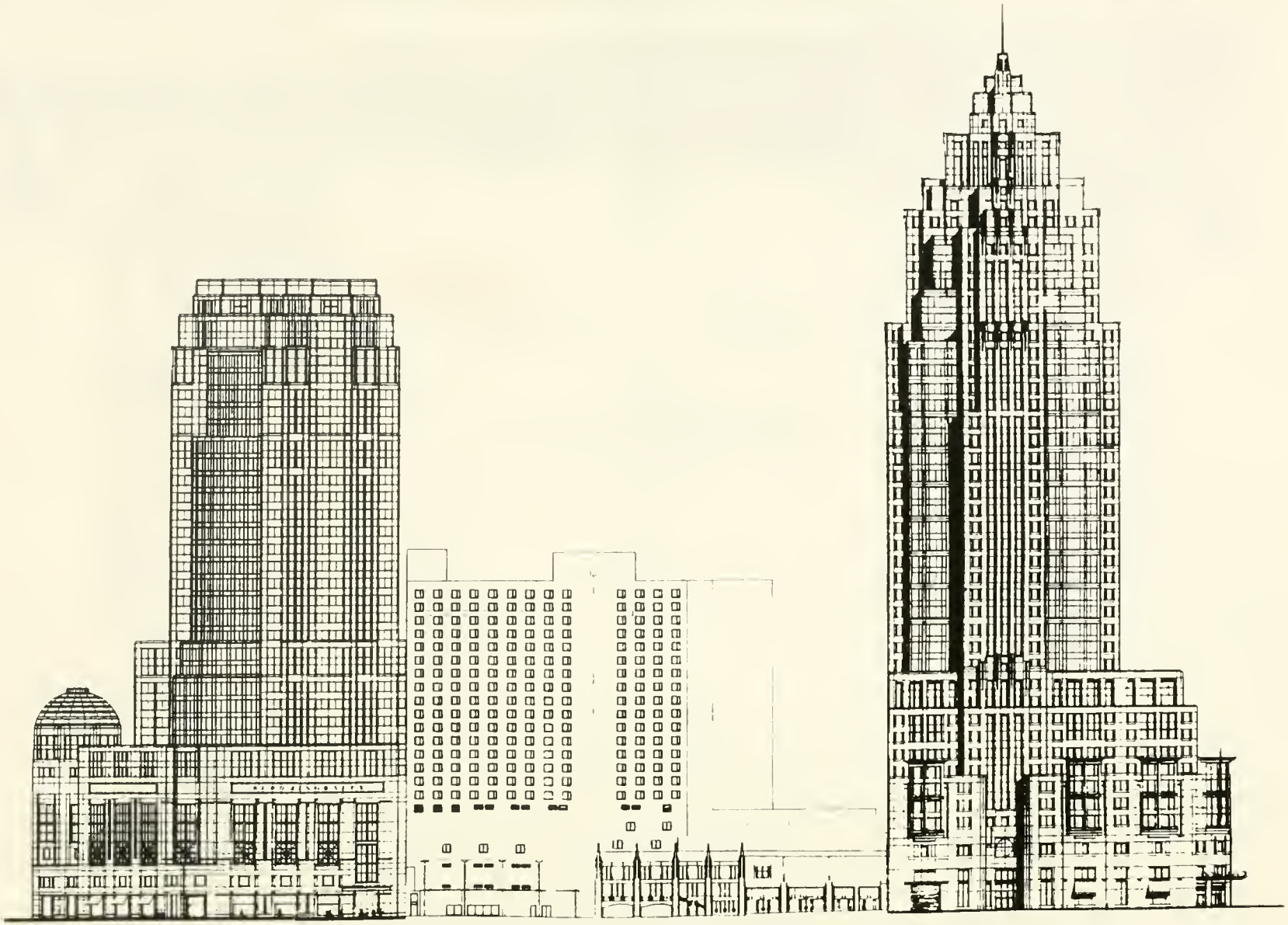


FIGURE VI-4

CHAUNCY STREET ELEVATION

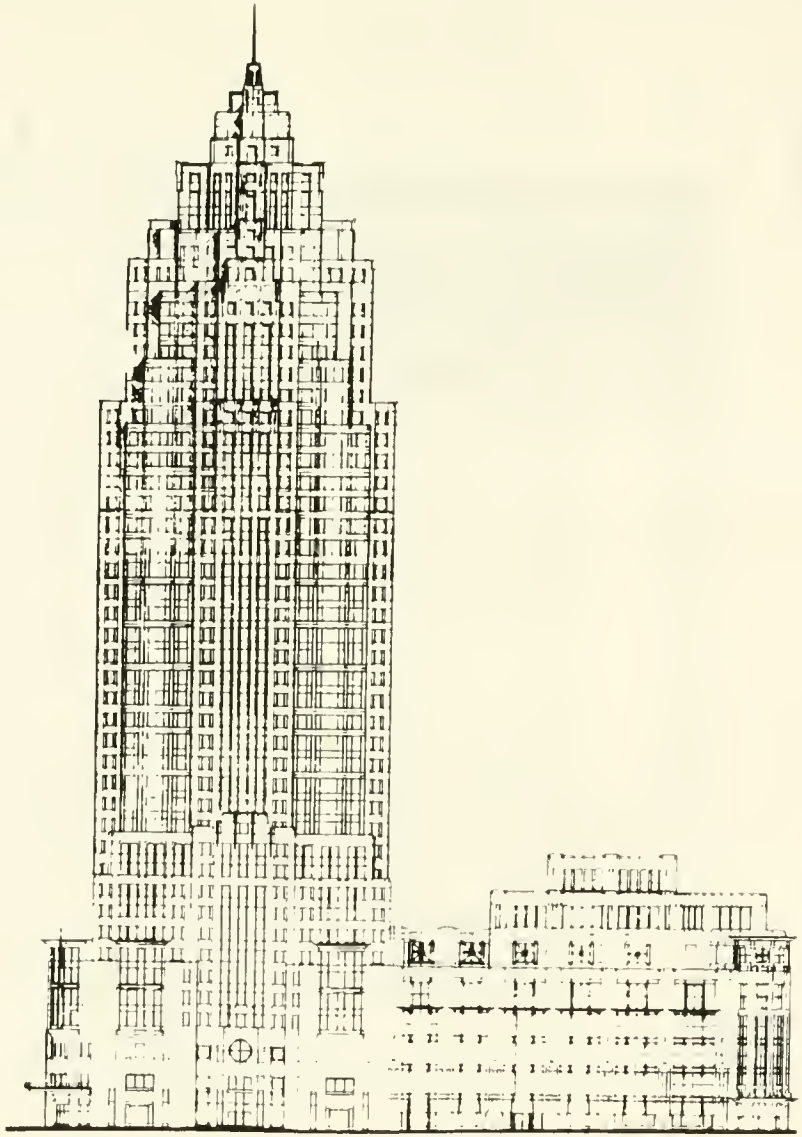


FIGURE VI-5

SUMMER STREET ELEVATION

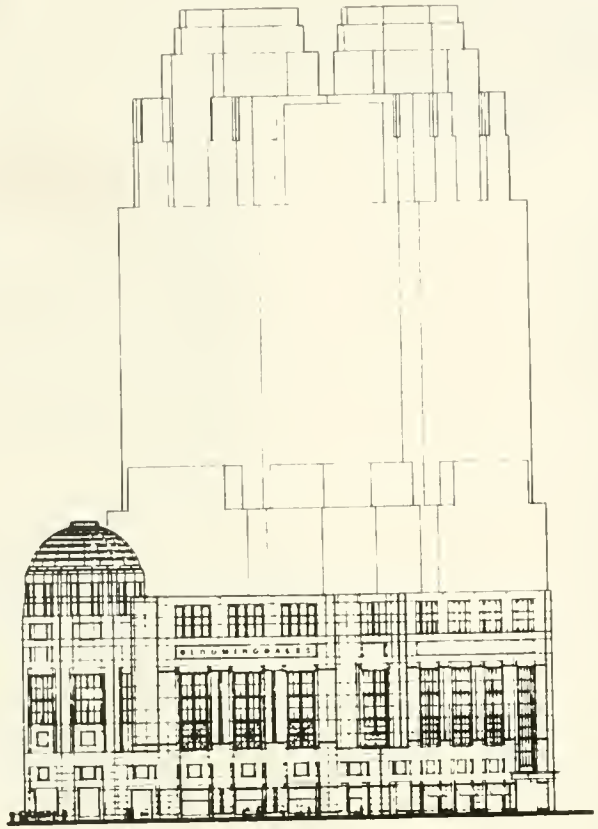


FIGURE VI-6

HAYWARD PLACE ELEVATION

The overall objective is to tie changes in building character to the many and varied site uses; establish clear and distinctive design images for the two department stores; emphasize the varied elements of the multiple store fronts of the retail center; punctuate the streetwall with small but elegant office entries which are reflected in base building changes; and emphasize through-block connections and internal passageways as elements which announce changes and establish a rhythm along the surrounding streets. In addition, upper levels of the base building have been set back so as to maintain the historic scale of buildings in the surrounding neighborhood.

2.2 Streetscape

2.2.1 Hayward Place, Harrison Avenue Extension and Avenue de Lafayette Streetscape

Since completion of the DPIR/DEIR considerable attention has been paid to the design character of this portion of the project. Included in this effort have been facade design and choice of materials for the Bloomingdale's store which will set the tone for this area of the project and relate to the scale and character of surrounding older commercial buildings. This effort also resulted in:

- Resolution of access and circulation requirements at this corner of the project including egress from the MBTA station at Hayward Place and Washington Street which include an emergency exit for the Chinatown Station, a ramp to below-grade loading on Harrison Avenue Extension, access to the below-grade parking garage at Avenue de Lafayette, and redesign of the local roadways to provide a westbound route for traffic through the area.

- Design of Opera Way - a through-block, two-story arcade which will connect Avenue de Lafayette to Washington Street with a major entry to Bloomingdale's at either end. This significant passageway through the project affords access to all retail portions of the project and establishes an important address and pedestrian area on Harrison Avenue Extension.

- Facilitation of circulation at Harrison Avenue Extension and Avenue de Lafayette by extending the width of the sidewalk in front of the entry to Bloomingdale's to the maximum width possible and maintenance of the aesthetic character of this facade of the building through consistent application of detailing (retail display windows, awnings, masonry piers) at the ground level.

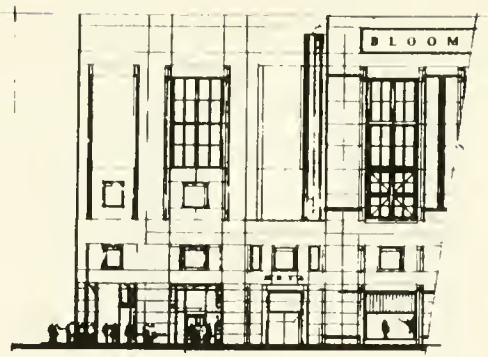
- Entry to the 500 Washington Street office building which will occur only at the Washington Street/Hayward Place intersection and will not congest the Harrison Avenue streetfront.

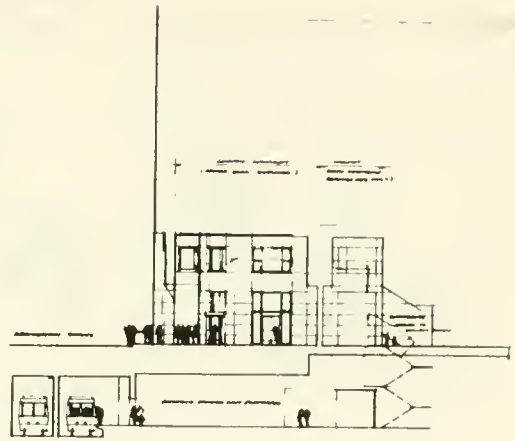
Elevations provided at the end of the Urban Design Component (Figures VI-27 and VI-29) illustrate the design approach to this portion of the project. The Bloomingdale's store is proposed to have a distinctive facade design of masonry and precast elements with display windows at ground level. The truck ramp will allow for head-in and head-out movements with no backing or extra maneuvering of trucks required on the street. The parking garage has been designed to allow vehicles to pull off the street as quickly as possible and to allow for queueing area within the garage.

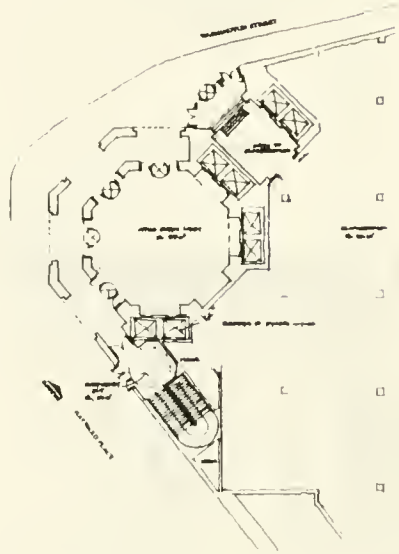
The reconstructed MBTA emergency exit near the corner of Hayward Place and Washington Street will replace the decrepit emergency exit from the Orange Line and the recently renovated Chinatown Station and an emergency ventilation system. Space for a future public entrance and barrier-free access to the proposed South Boston Piers Transitway, if built by the MBTA, has also been incorporated in the design and is being coordinated with the MBTA. Figures VI-7 and VI-8 illustrate plans and elevations of the subway station improvements.

2.2.2 Retail Frontage and Entries

The Washington Street specialty retail facade has been redesigned to provide an active retail frontage at the street level. Existing utility spaces and stairs have been eliminated and/or relocated where possible to allow maximum individual tenant storefronts which will make use of large, clear glass display windows, doors, and awnings as shown in Figure VI-3.







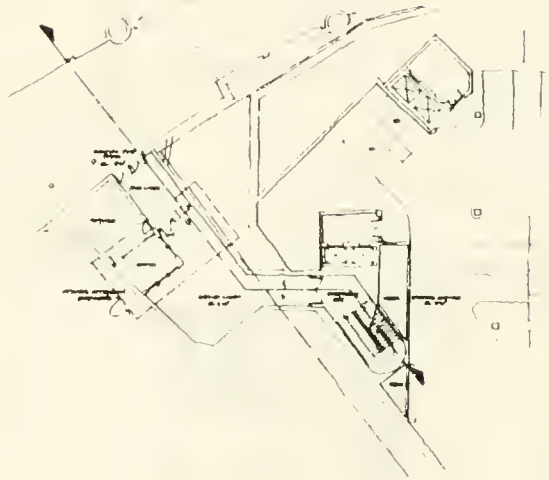
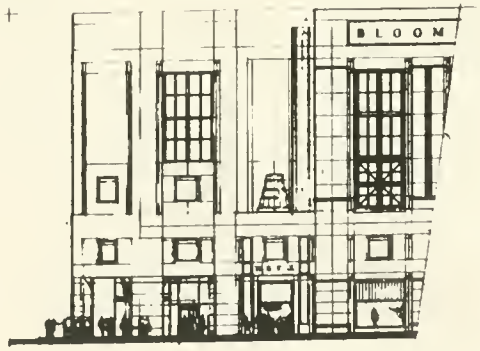
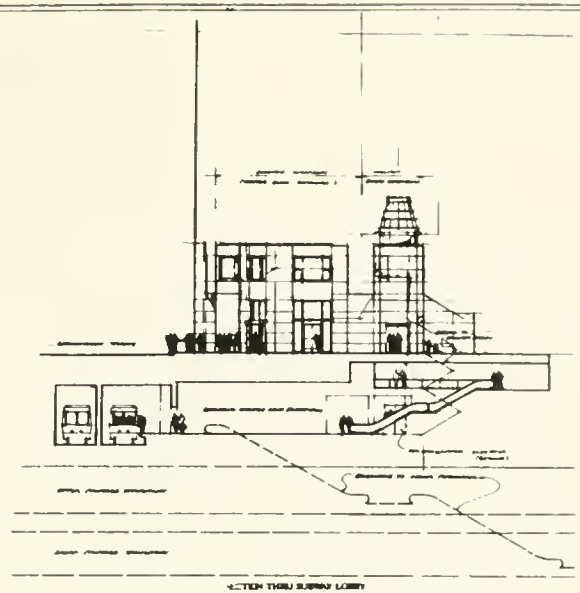


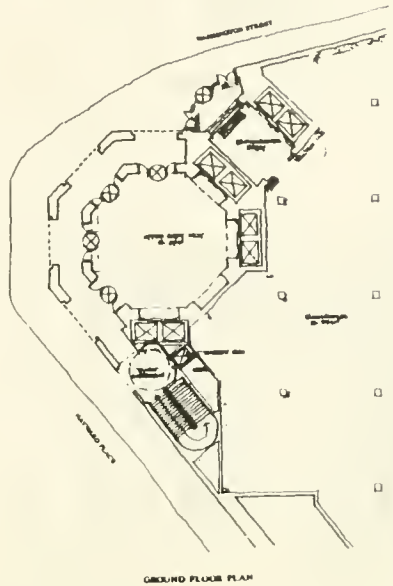
FIGURE VI-7

CONNECTION TO SUBWAY LOBBY/PHASE 1

BOSTON CROSSING







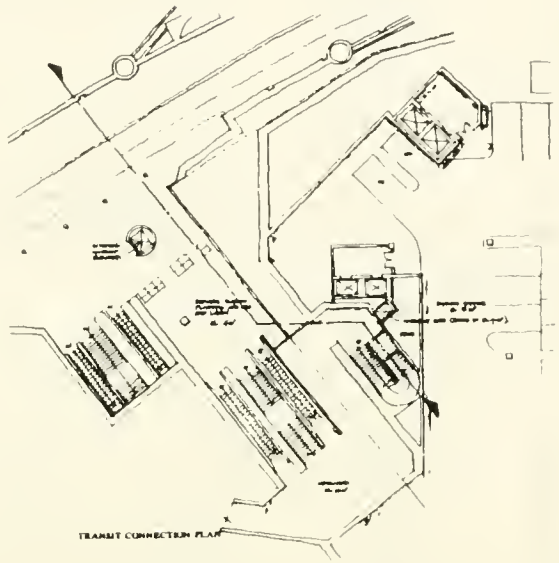


FIGURE VI-8

CONNECTION TO SUBWAY LOBBY/PHASE 2

BOSTON CROSSING

In addition to the main entrances to the retail center, a street entrance to each shop is anticipated. Entry points indicated on the ground floor plan as shown in Figure VI-9 reflect the approximate number of retail entryways based on the proposed Tenant Lease Plan and may alternately vary in location. Existing slab demolition and reconstruction at the required elevation is necessary to achieve street entry.

Along Washington Street, the difference in elevation between the sidewalk and the concrete slab that forms the ceiling of the garage precludes grade level retail access to three bays without loss of parking spaces below as illustrated in Figure VI-10. Display windows and a Washington Street entrance from one side will be maintained however. Detailed drawings submitted to the BRA show numerous sections of retail access at grade along the majority of the Washington Street facade.

2.2.3 Pedestrian Access Aligned with Bedford Street

The existing garage entrance on Chauncy Street precludes a pedestrian entry to the specialty retail center directly on axis with Bedford Street. A new public entrance is planned north of and immediately adjacent to the garage entrance. Direct escalator and elevator connections will take visitors to a double height, clear glass enclosed arrival area directly above the garage entrance. This upper level arrival area will be directly on axis with Bedford Street, will provide a view from the street of activity within the retail center, and a physical and visual connection to the entry level for retail uses within the building (Figures VI-11, VI-12, and VI-13).

In addition to the main retail entrance to the retail center described above, there will be direct street-level retail entrances on Chauncy Street to individual street level stores.

2.2.4 Opera Way

As noted in the project description and earlier discussions of streetscape design, the design of Opera Way has evolved significantly since the completion of the DPIR/DEIR. As currently proposed it is a two-story, pedestrian arcade which passes east-west through the project, generally on the alignment of the existing Avenue de Lafayette. Special attention has been paid to views from the generous three story entryway out to the Opera House facade across Washington Street. Opera Way is expected to draw people through the block, establish an historical reference and theme for this portion of the building,

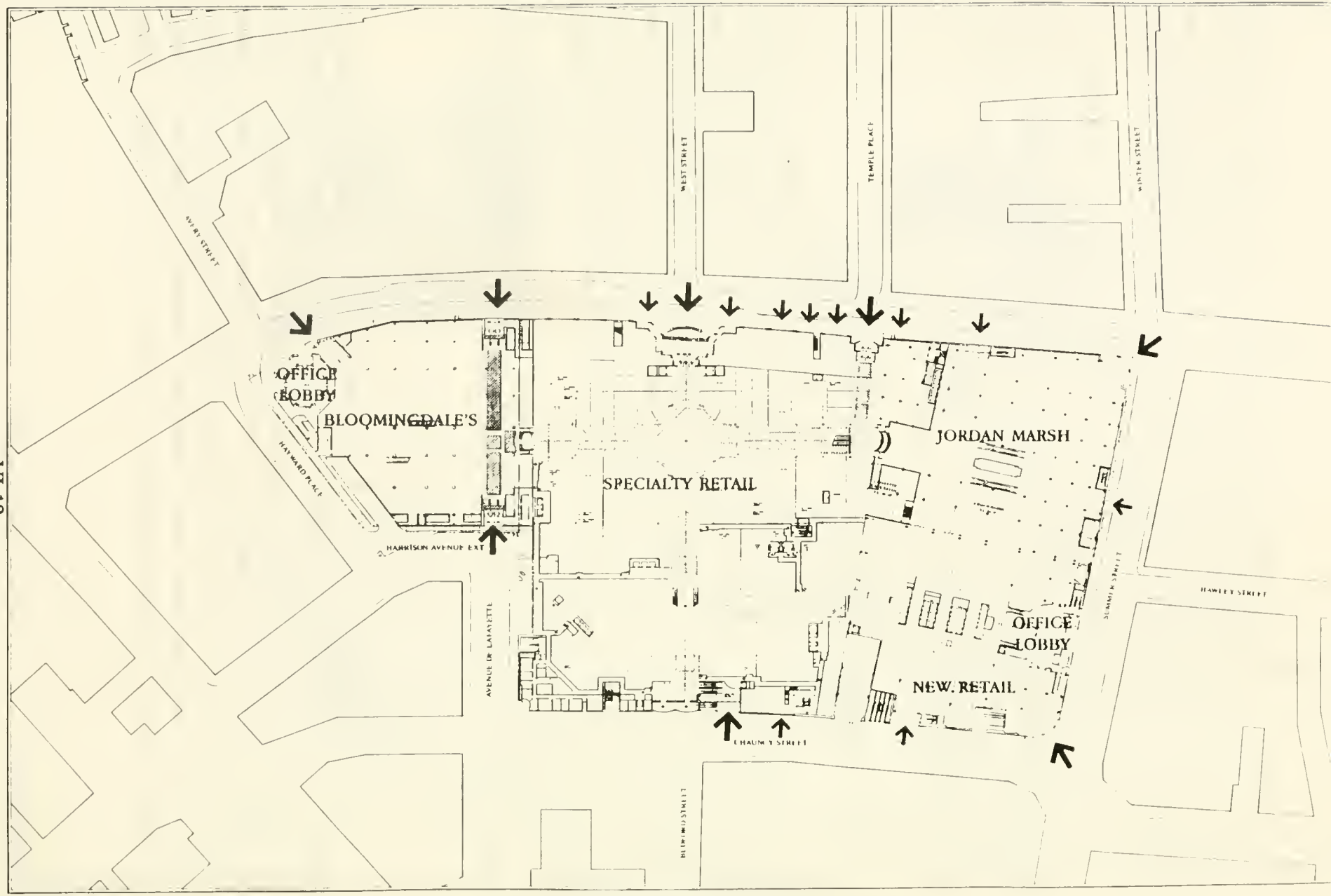


FIGURE VI-9

RETAIL ENTRY POINTS

BOSTON CROSSING

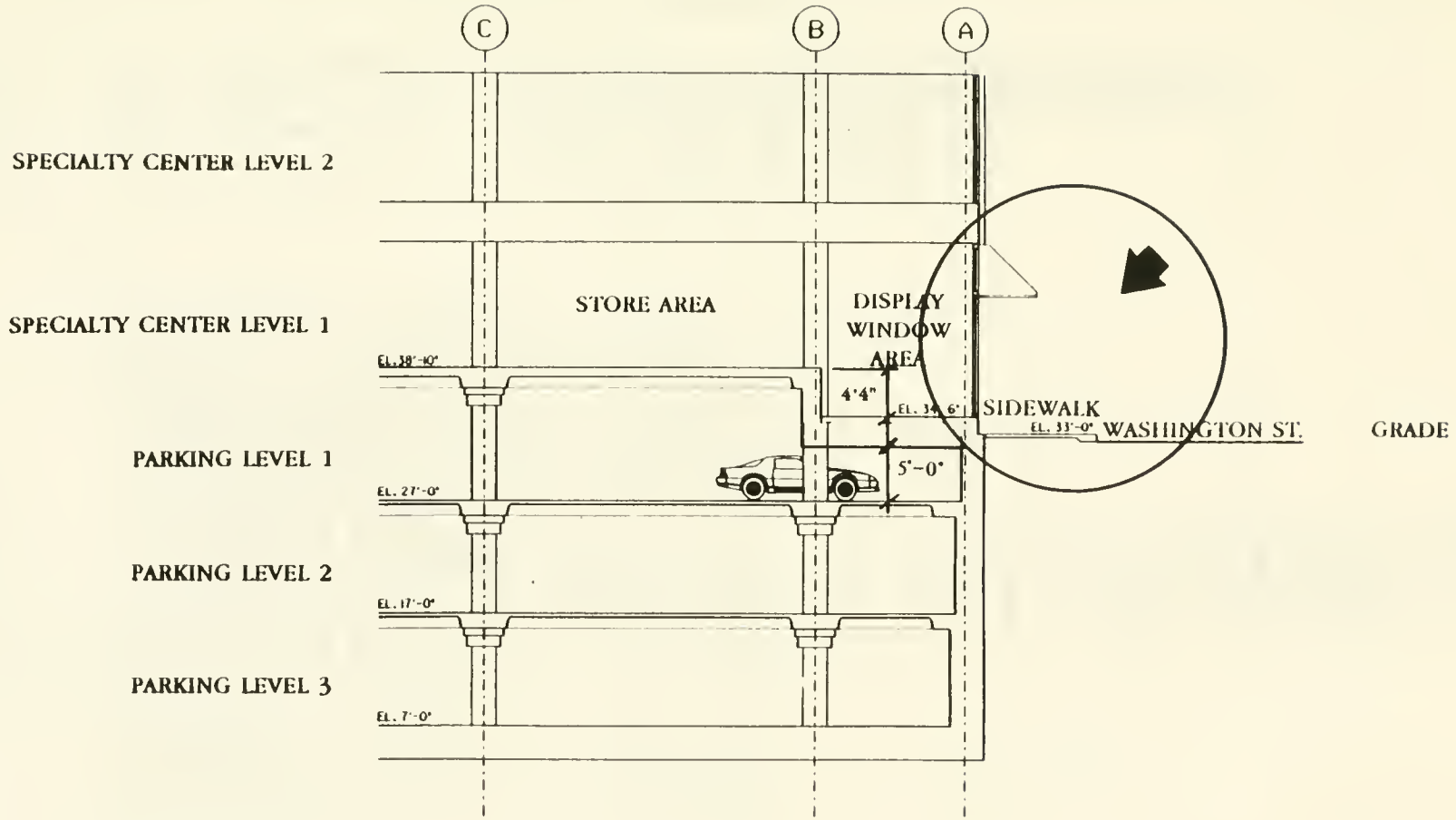


FIGURE VI-10

EAST-WEST PARTIAL SECTION SOUTH OF WEST STREET ON WASHINGTON STREET, LOOKING SOUTH, SHOWING PRECLUDED GRADE-LEVEL RETAIL ACCESS

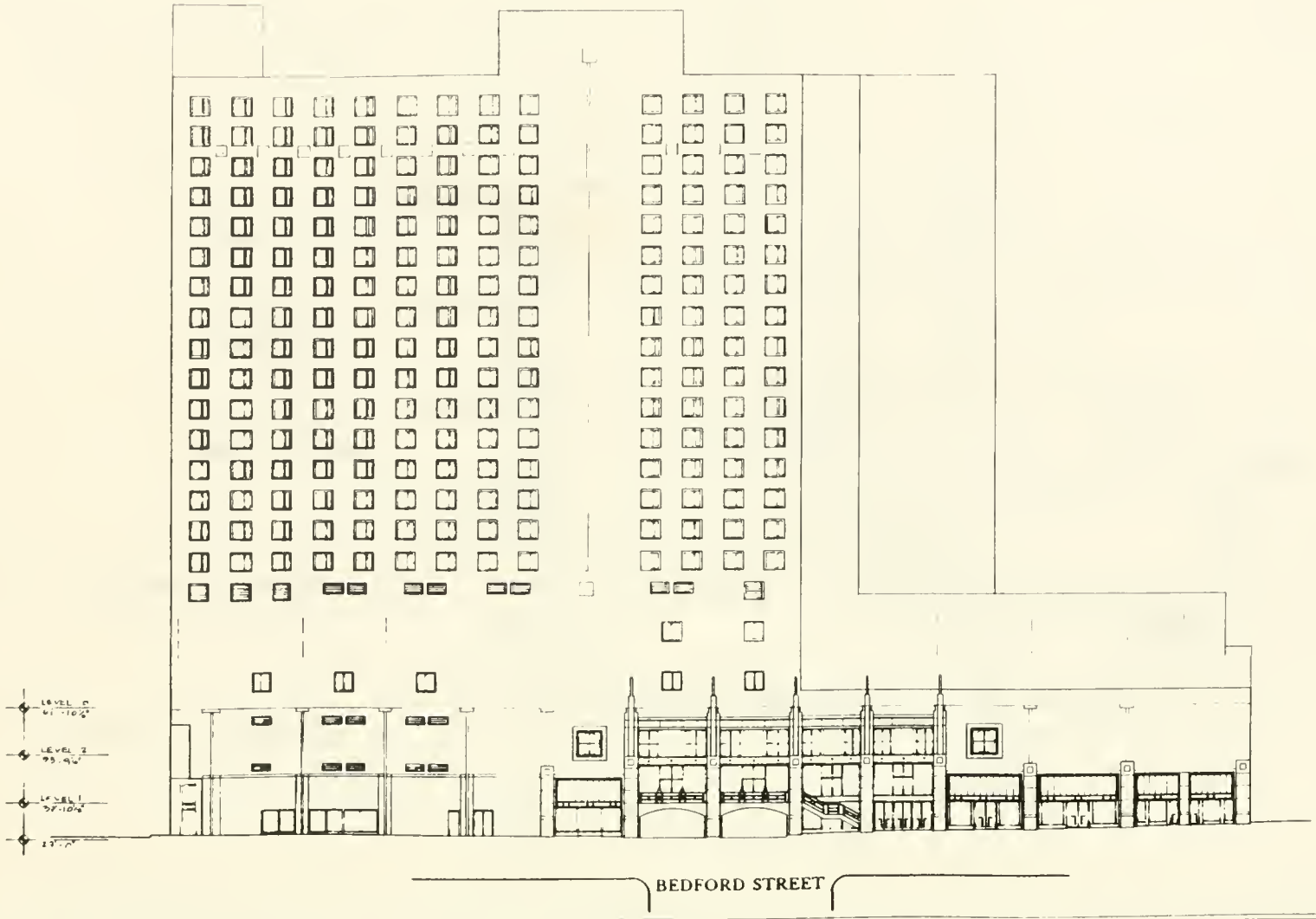


FIGURE VI-11 PEDESTRIAN ACCESS ALIGNED WITH BEDFORD STREET CHAUNCY STREET ELEVATION

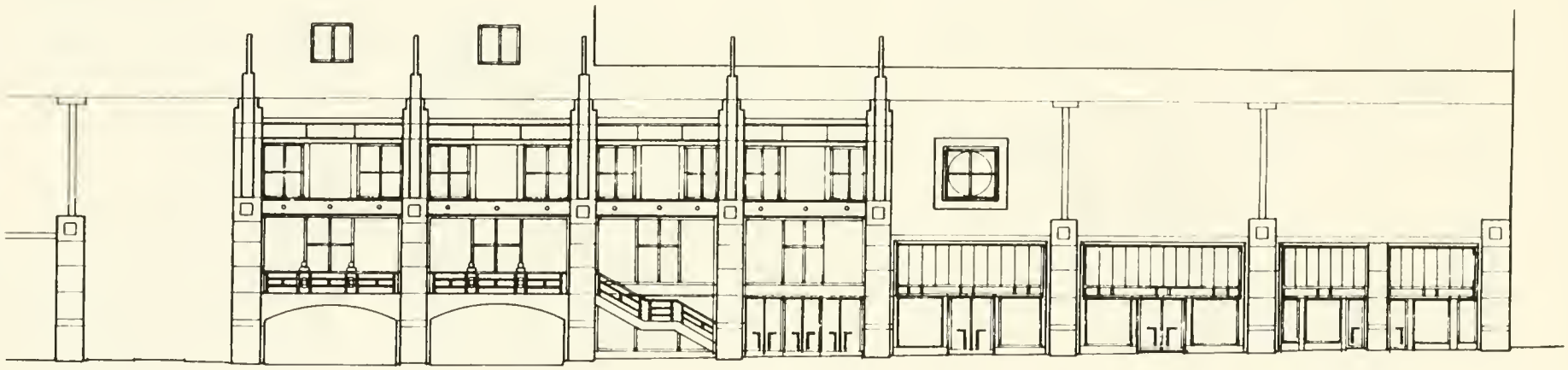
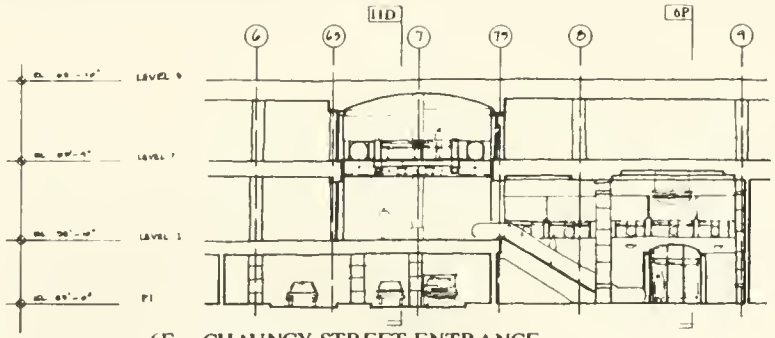
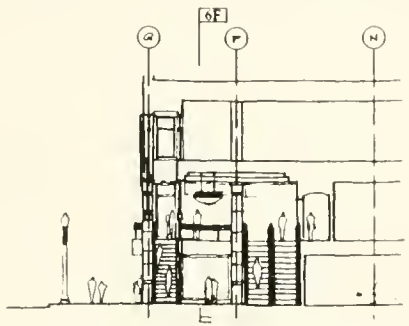


FIGURE VI-12

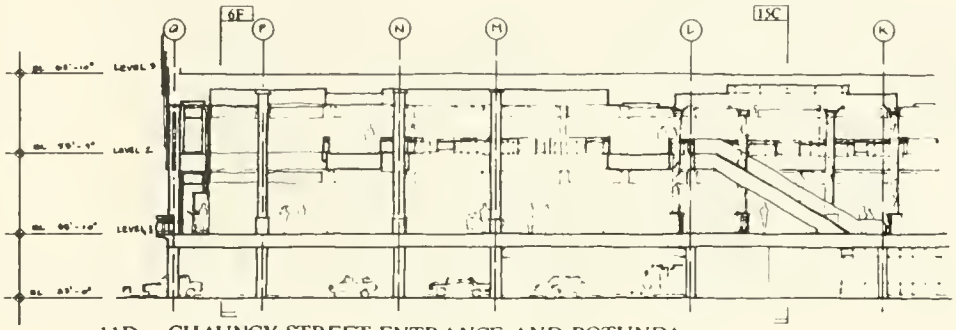
DETAIL: CHAUNCY STREET ELEVATION PEDESTRIAN ACCESS



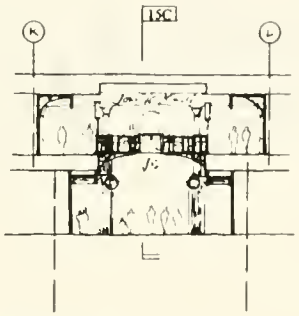
6F CHAUNCY STREET ENTRANCE
SCALE: 1/8" = 1'-0"



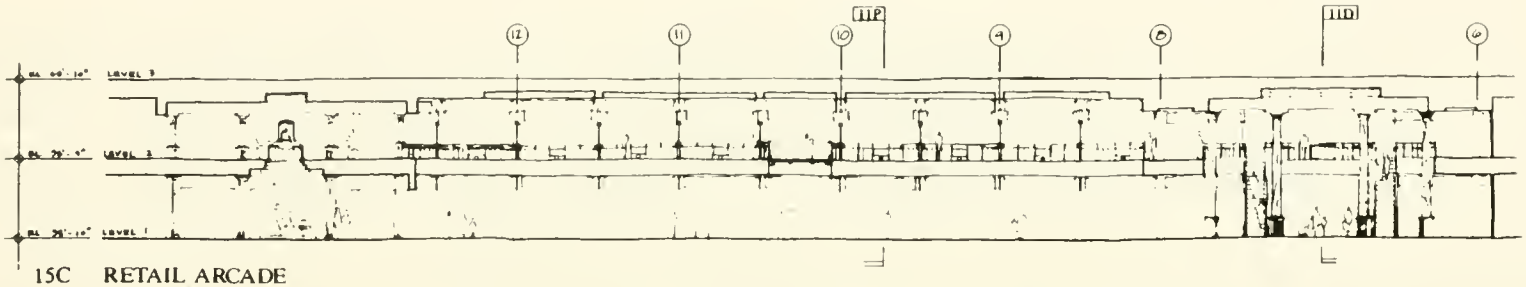
6P CHAUNCY STREET ENTRANCE
SCALE: 1/8" = 1'-0"



11D CHAUNCY STREET ENTRANCE AND ROTUNDA
SCALE: 1/8" = 1'-0"



11P RETAIL ARCADE
SCALE: 1/8" = 1'-0"



15C RETAIL ARCADE
SCALE: 1/8" = 1'-0"

FIGURE VI-13 PEDESTRIAN ACCESS ON BEDFORD STREET ALIGNMENT

and provide a connection to the cultural activities of the district. New merchandising concepts are being tested by Bloomingdale's to establish a retail street character along this arcade to the greatest extent possible.

Primary changes in the design of Opera Way since the DPIR/DEIR include:

- Increase in height of the arcade from one to two stories;
- Added height beyond two stories at the Opera House end to allow for a more generous entryway and more full views to the Opera House facade;
- Choice of materials and design character to emphasize street-like elements of the arcade; and
- Narrowing and minimizing of two required bridges through the space at the second level.

Figures VI-14 through V-18 illustrate Opera Way.

2.2.5 Pedestrian Passageways

Boston Crossing will incorporate internal pedestrian passageways which will form extensions of the existing street grid. A major east-west passageway between Washington and Chauncy Streets will follow the alignment of West Street and Bedford Street. An additional passageway, known as Opera Way will establish a two-story passage within the southern retail building beginning at the corner of Avenue de Lafayette and Harrison Avenue Extension and running through the building to Washington Street across from the Opera House. Additional entries and connecting corridors will facilitate pedestrian circulation through the project.

A pedestrian easement will be granted along the primary entrance point on Washington Street at West Street running via a connecting easement to grade level on Chauncy Street at Bedford Street. Figures VI-19 and VI-20 illustrate schematically the anticipated configuration of these easement areas. The precise locations and descriptions of these easement areas will be defined in the design development phase and presented in

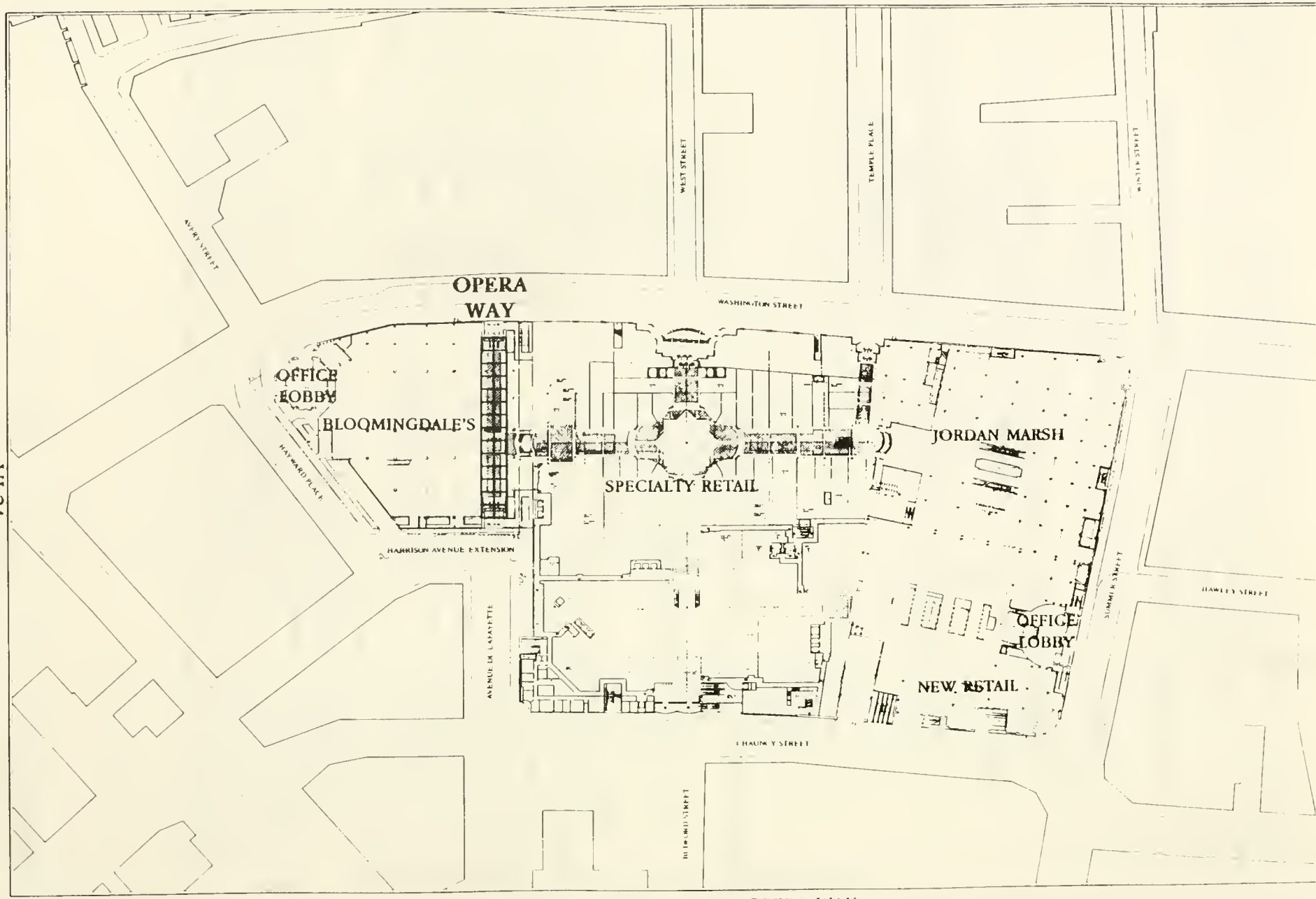
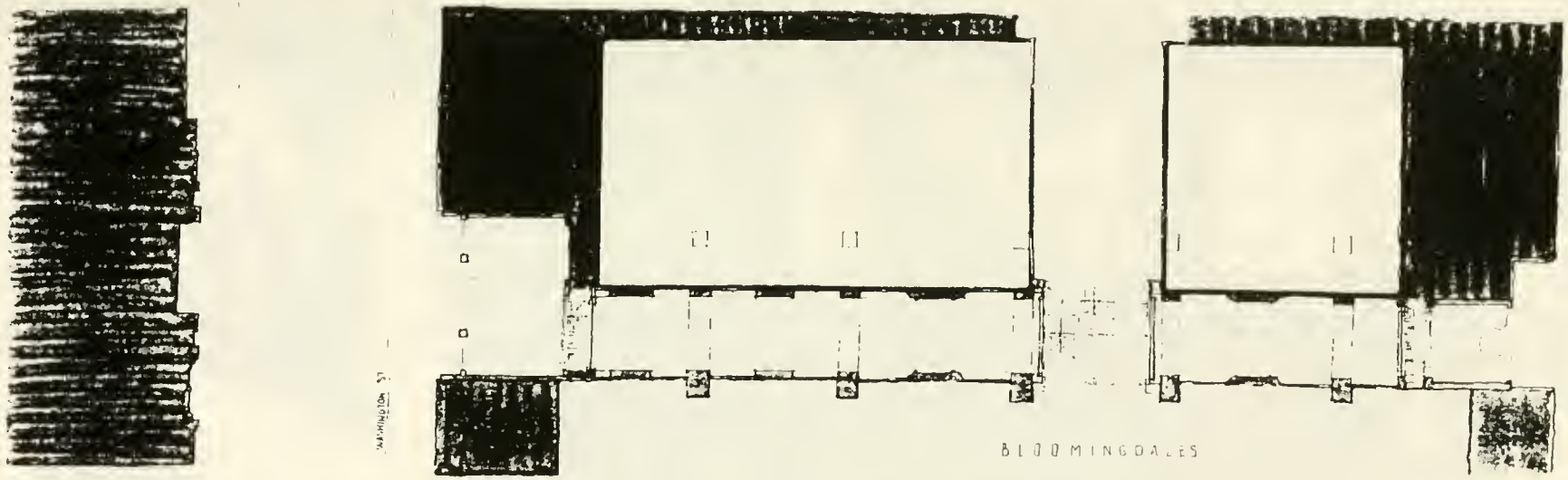
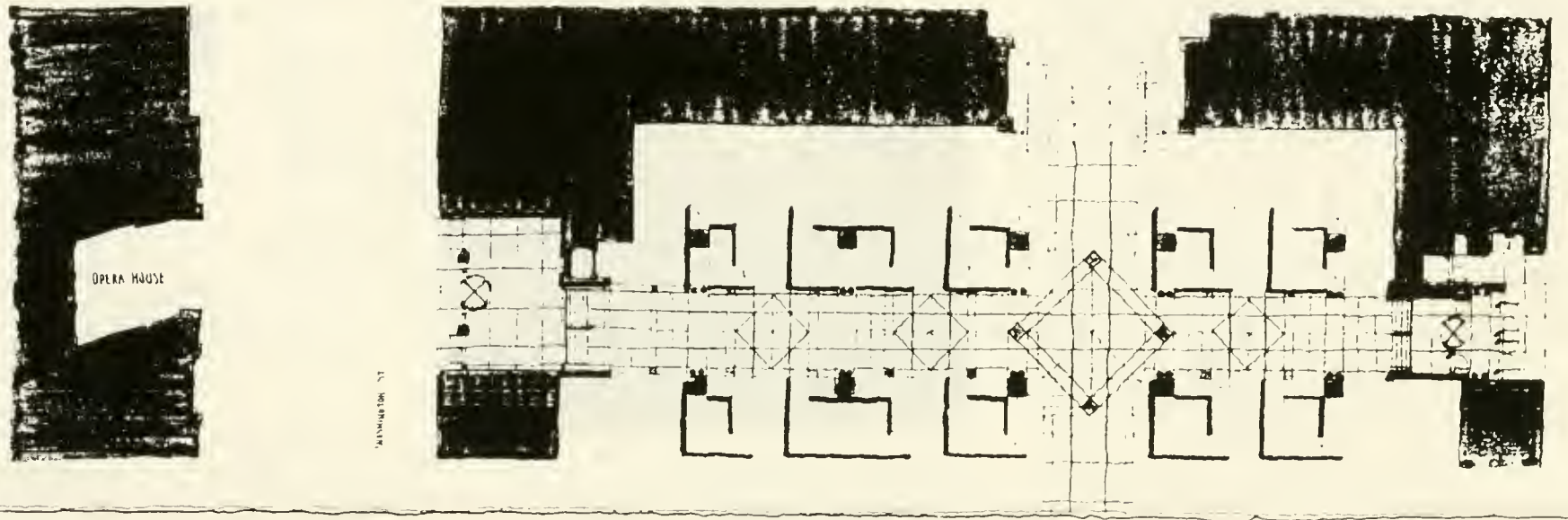


FIGURE VI-14

GROUND FLOOR PLAN - OPERA WAY

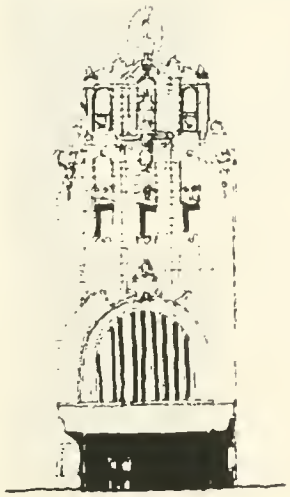


PLAN: OPERA WAY
SECOND FLOOR

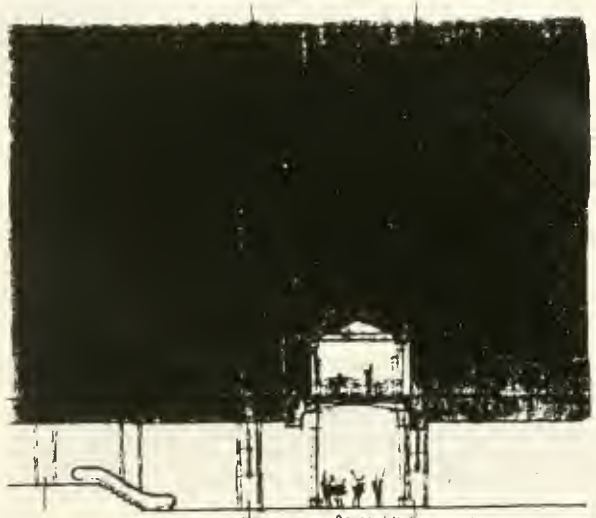


PLAN: OPERA WAY
GROUND FLOOR

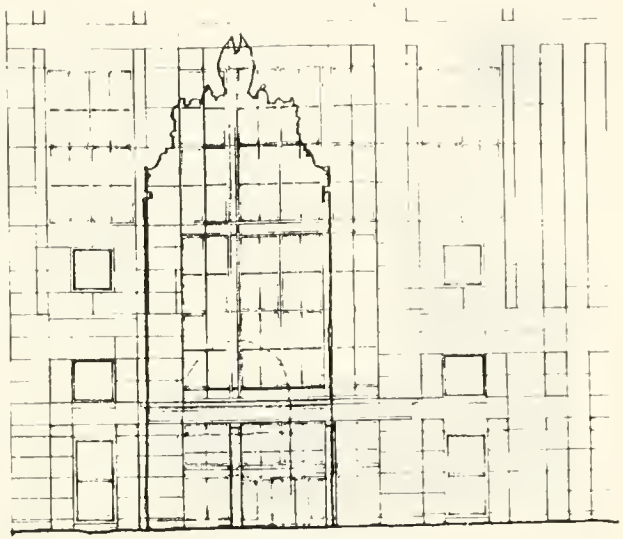
FIGURE VI-15



OPERA ELEVATION



SECTION AT OPERA WAY



PARTIAL ELEVATION

FIGURE VI-16

SECTION AT OPERA WAY

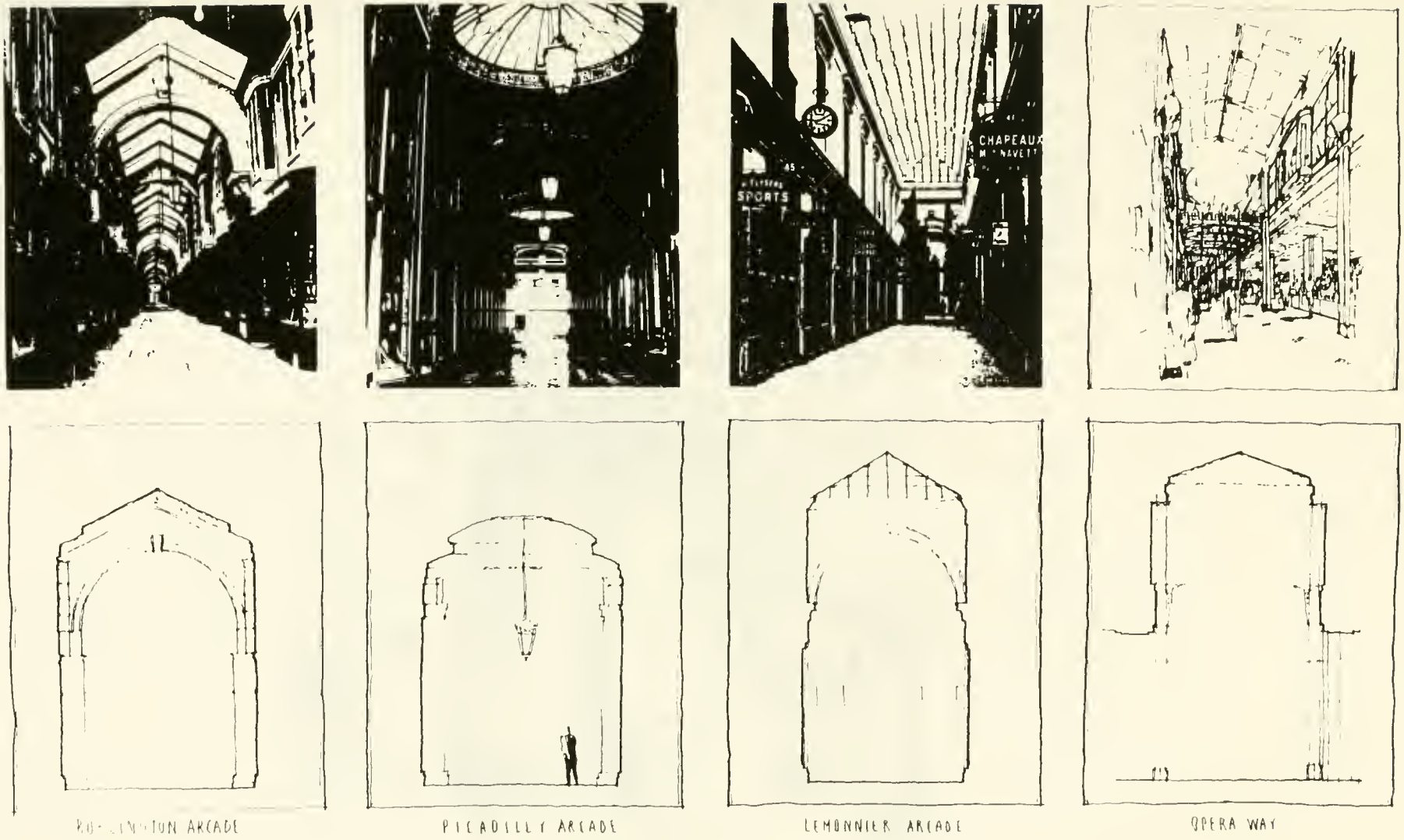
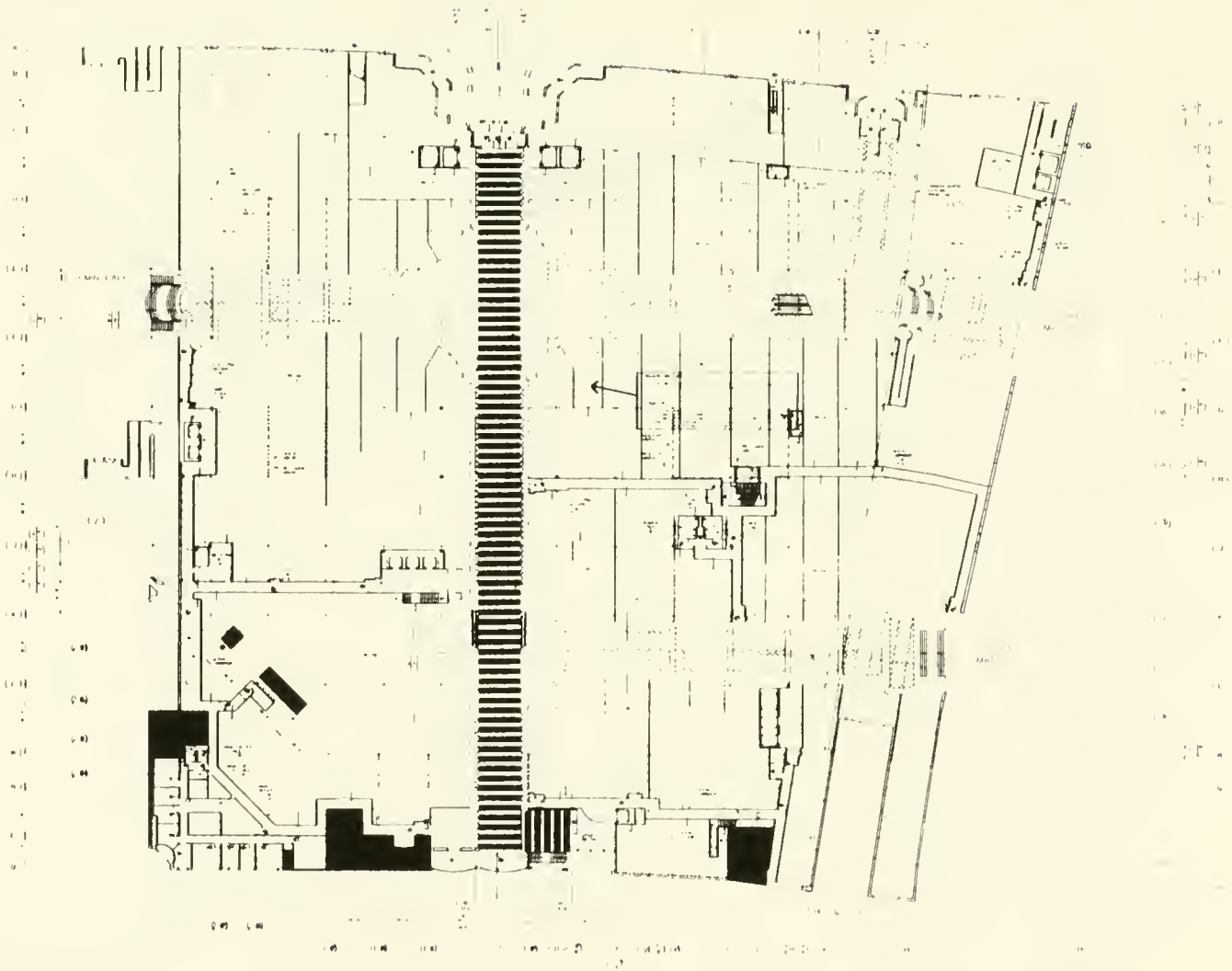


FIGURE VI-17

ARCADE COMPARISONS

FIGURE VI-18

PERSPECTIVE AT OPERA WAY

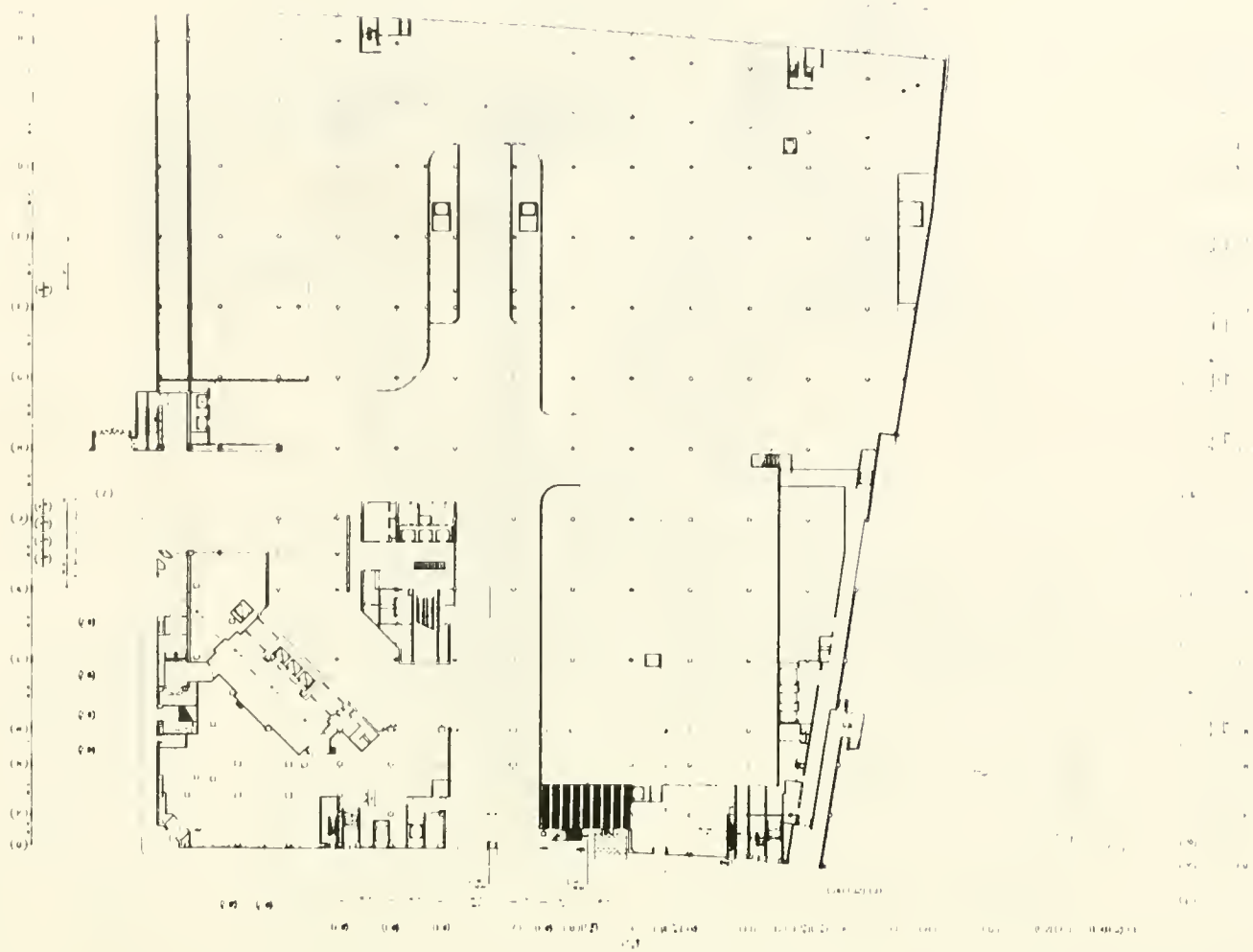


PEDESTRIAN EASEMENT

FIGURE VI-19

GROUND FLOOR PEDESTRIAN EASEMENT

BOSTON CROSSING



PEDESTRIAN EASEMENT

FIGURE VI-20

GARAGE LEVEL 1: PEDESTRIAN EASEMENT

design reviews with the Boston Redevelopment Authority. The easements will be integral elements of the development and will be kept open during normal retail hours of the development.

2.2.6 Interior Seating and Amenities

The ground floor plan of the specialty retail center has been designed to provide two main retail arcades which maintain a sense of urban streets through the retail block, and which intersect at a grand elliptical space. This space is intended to be the design centerpiece of the retail center. The plan of the ellipse has been sized to create a public scale sufficient to provide generous circulation areas for seating and other amenities. The ellipse will feature decorative stone paving patterns, and decorative light fixtures. The center of the space may be defined by a fountain placed on a raised podium or a specially commissioned work of art. Figure VI-21 illustrates the ellipse.

2.2.7 Washington Street Sidewalk Widening

All plans for sidewalk widening surrounding the proposed project are subject to the approval of various departments and agencies of the City of Boston after review by the Downtown Crossing Association (DCA) and other interested community organizations. A current proposal for widening the sidewalks is, as shown on the Curb Realignment Plan (Figure VI-22) to realign the entire curb along Washington Street between Summer Street and Hayward Place with the new sidewalk ranging in width from approximately 14 feet to 18 feet, leaving a street pavement of approximately 19 feet with neck downs at cross street intersections of approximately 12 feet. The BRA, Boston Transportation Department (BTD), and Public Works Department are reviewing plans and are working together with the developer of Commonwealth Center, DCA, and other interested parties to create a plan for the area.

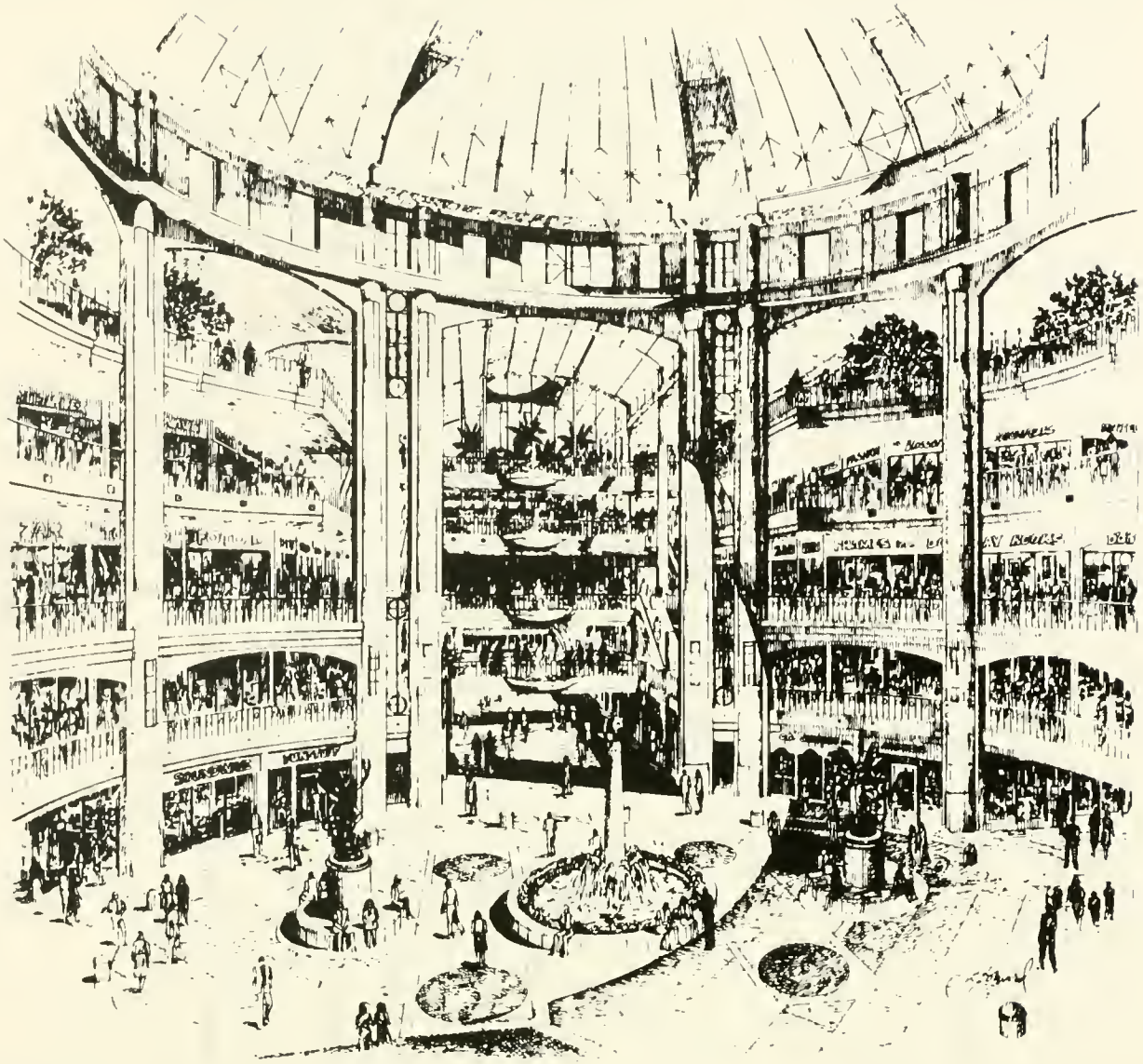


FIGURE VI-21

ELLIPTICAL OPEN SPACE

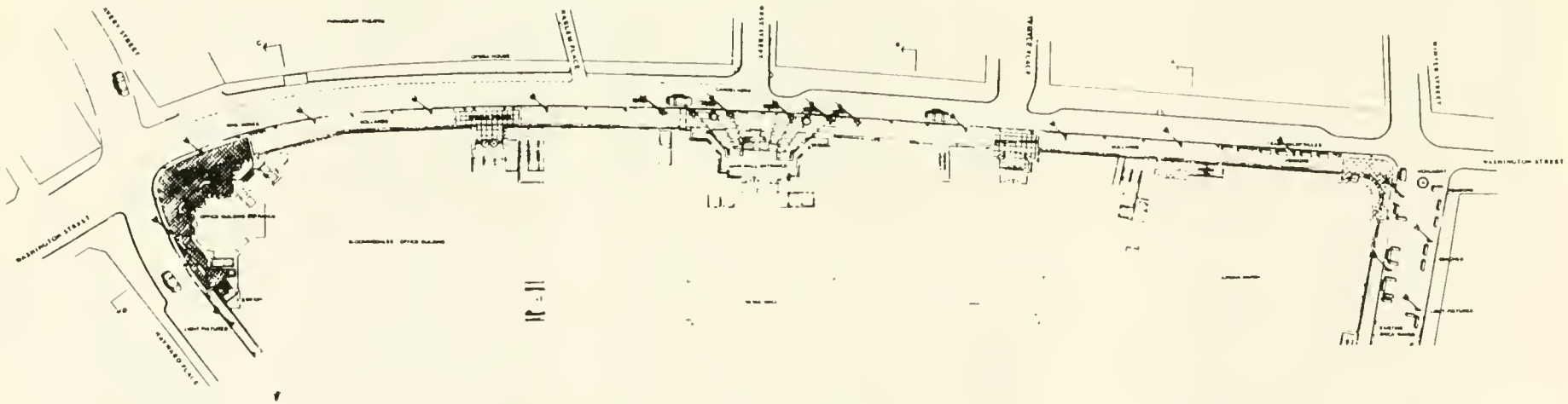


FIGURE VI-22

WASHINGTON STREET CURB REALIGNMENT PLAN

BOSTON CROSSING

As shown on the Curb Realignment Plan, Figure VI-22, Washington Street sidewalks will be enlivened by installation of new pedestrian pavement, street lights, and other street furniture. With a design prepared in concert with the design guidelines being developed by the City, the sidewalks are expected to be precast concrete paving extending from the curb to the base of the building which will be circumscribed by consistent bands of granite paving. Where the sidewalk dimension allows, acorn lights, newsstands, trash receptacles, areas for vendors' carts, or other street furnishings will be provided. At each of the major pedestrian entrances to Boston Crossing, special pavements may be installed as well as kiosks for flower stands/news vendors, mailboxes, and special candelabra light fixtures.

2.3 Open Space

2.3.1 Outdoor Public Space

The open space concept which has evolved in response to public comment and in coordination with the design of the Boston Crossing project recognizes the limitation of street and sidewalk space in this dense historic urban setting and looks for opportunities to give a sense of rhythm and relief to the crowded pedestrian experience in the area. These opportunities exist primarily at the intersection of major streets in the area and at key entrances to the Boston Crossing project itself. The design concept illustrated here seeks to provide improved pedestrian circulation space around the full project perimeter and to celebrate and emphasize somewhat larger pockets of open space at key points in the project.

As shown on the current plans, outdoor public space at West Street near the entrance to the specialty retail center will be created. Opportunities for temporary spaces for performances may be created along Washington Street. Other outdoor open space that could potentially be used for such activities would be located in the refurbished Summer Street auto restricted zone; at the Chauncy/Summer Street retail entrance; and at the Washington Street/Hayward Place entrance to Bloomingdale's.

2.3.2 Options for Use of Rooftop Space

It is proposed by Boston Crossing that a 3,300 square foot third floor rooftop space above Chauncy Street be used as the outside play area for the new child care center to be built in the new office tower above Jordan Marsh, Figure VI-23. This space would accommodate approximately 44 children based on 75 square feet per child and will have play equipment for climbing, sliding, and crawling. A shock absorbing playground surface will be installed around all play equipment. A continuous 7-foot high, non-climbable fence will be installed at a distance three feet from the parapet above Chauncy Street.

2.3.3 Summer Street Park Area

Although the historic pattern of streets and buildings in the Ladder Blocks District offers limited options for grand public open spaces, pedestrians are provided considerable open space relief at the heart of the district in the block of Summer Street between Jordan Marsh and Filene's. Campeau proposes to refurbish the existing Summer Street auto restricted zone by installing new benches, trash receptacles, and lights where needed. The existing brick pavement between the trench drains would remain, but the historic granite plaque would be repaired or replaced.

2.4 Facades

2.4.1 Variety of Facade Treatment

As noted in Section 2.1.4 of this chapter, the variety and massing of base elements of the Boston Crossing project has been a major focus of the recent design efforts. Facade treatment is a significant factor in establishing this essential variety. Illustrations provided in this chapter indicate the different facade designs proposed for each department store, the retail center, office entries, and key corners of the project. It is traditionally a challenge to design an interesting facade for a department store or retail store where merchandising calls for an internal focus above the first floor and extensive storage along the perimeter. Despite this tendency, working with the merchandising team, the designers have developed facade designs which maximize the use of glass and other textures and

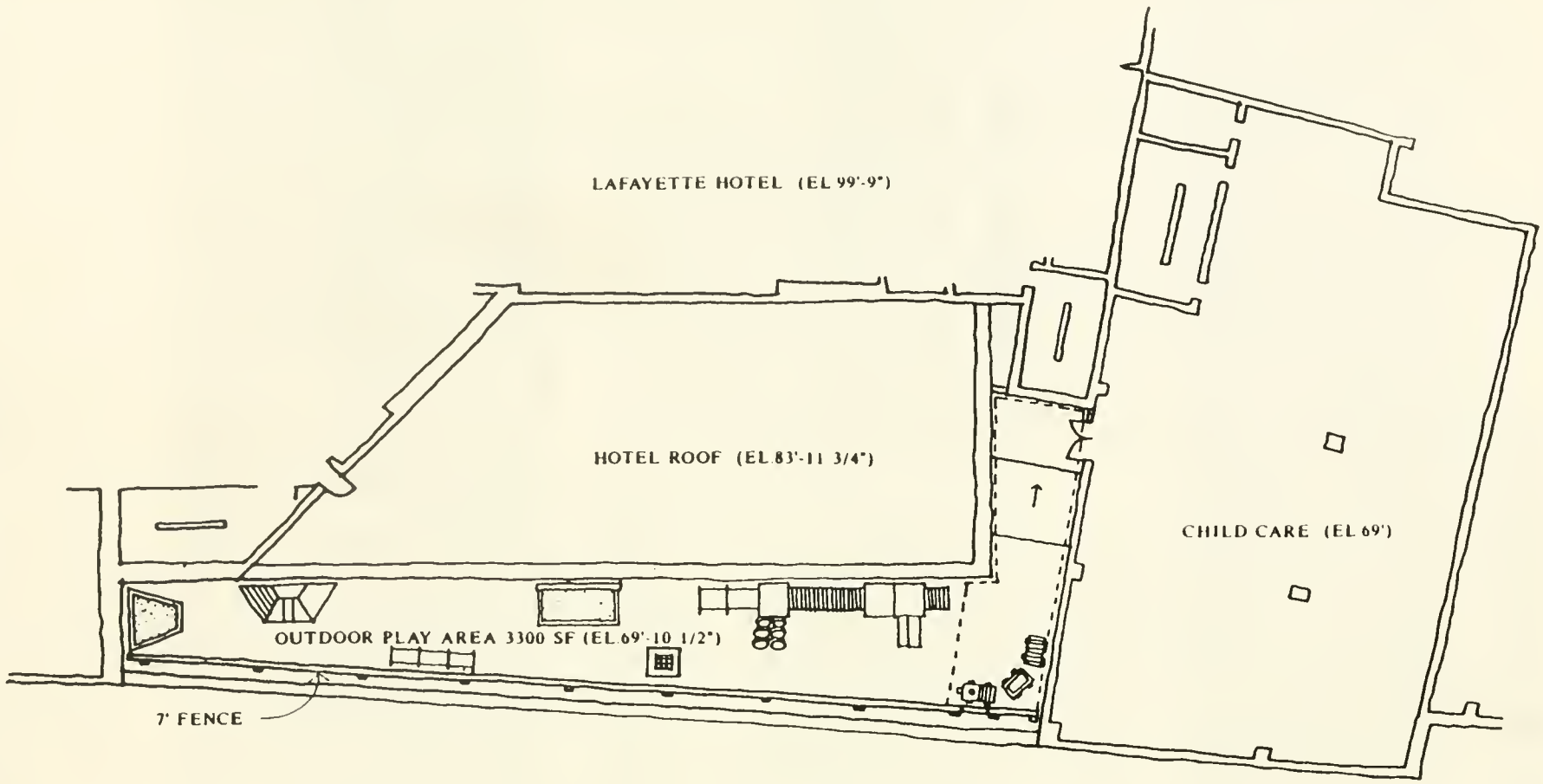


FIGURE VI-23

CHILD CARE OUTDOOR PLAY AREA

patterned elements. In addition, portions of the upper levels have been opened to the street with clear glass viewing areas to allow pedestrians a glimpse of the retail activity viewed from the street level. Use of clear glass has been particularly successful in the tower element which marks the Downtown Crossing corner and entry to Jordan Marsh at Washington and Summer Streets.

2.4.2 Facade Design and Materials

Facades of the Boston Crossing project have been designed to provide interest and vitality at the street level, and to respect the historic character of the surrounding district. A significant amount of facade detailing along the base of the project is comprised of glazed elements, framed by masonry and metal materials. The central retail portion is predominantly glazed, with metal detailing. The bases of the office towers, punctuated by major entries to the department stores and alternating bay windows, consist of heavy masonry piers and corner towers which support the more regular office tower facades above the base, on the northern and southern ends of the site.

Along Washington Street, in the Jordan Marsh building, the variety of articulation is expressed in the bay windows that project beyond the limit of the streetwall, multiple retail entries, overhanging awnings, and use of diverse materials including glass retail windows, masonry piers, and painted metal detailing around the windows as shown in Figure VI-24. Retail windows above the first floor are translucent. Above the fourth floor cornice line are cinemas, an athletic club, and the office tower. Similar facade detailing is continued along Summer Street, where the entry to the office tower is set back by heavy masonry piers and two "lanterns," which match the height of towers at the corner of Summer and Washington and Summer and Chauncy Streets as shown in Figures VI-24 through VI-26. The entry to the new, two story retail component at the corner of Summer and Chauncy Streets is of similar design to the office tower component along Summer street.

Along Washington Street, the Bloomingdale's facade at street level establishes a very different character for this portion of the project with a three-bay masonry base that is coordinated with the design of the office tower above as shown in Figure VI-27. The entrance to Opera Way, one of Bloomingdale's primary entrances, is emphasized by a two-story glass-fronted arcade, and a wide entrance to the pedestrian passage through the project. Retail windows are covered by awnings, and framed by precast and granite materials. The tower at the corner of Washington and Avery Streets has been designed to relate to the proposed Commonwealth Center towers across Washington Street. Similar

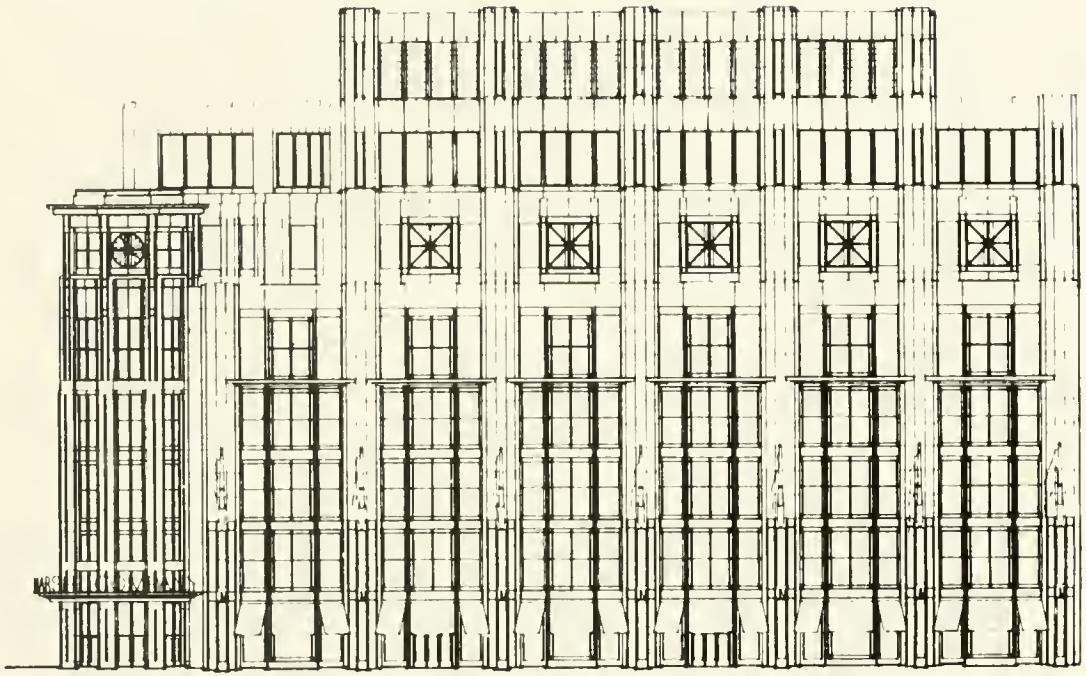


FIGURE VI-24

JORDAN MARSH AT WASHINGTON STREET

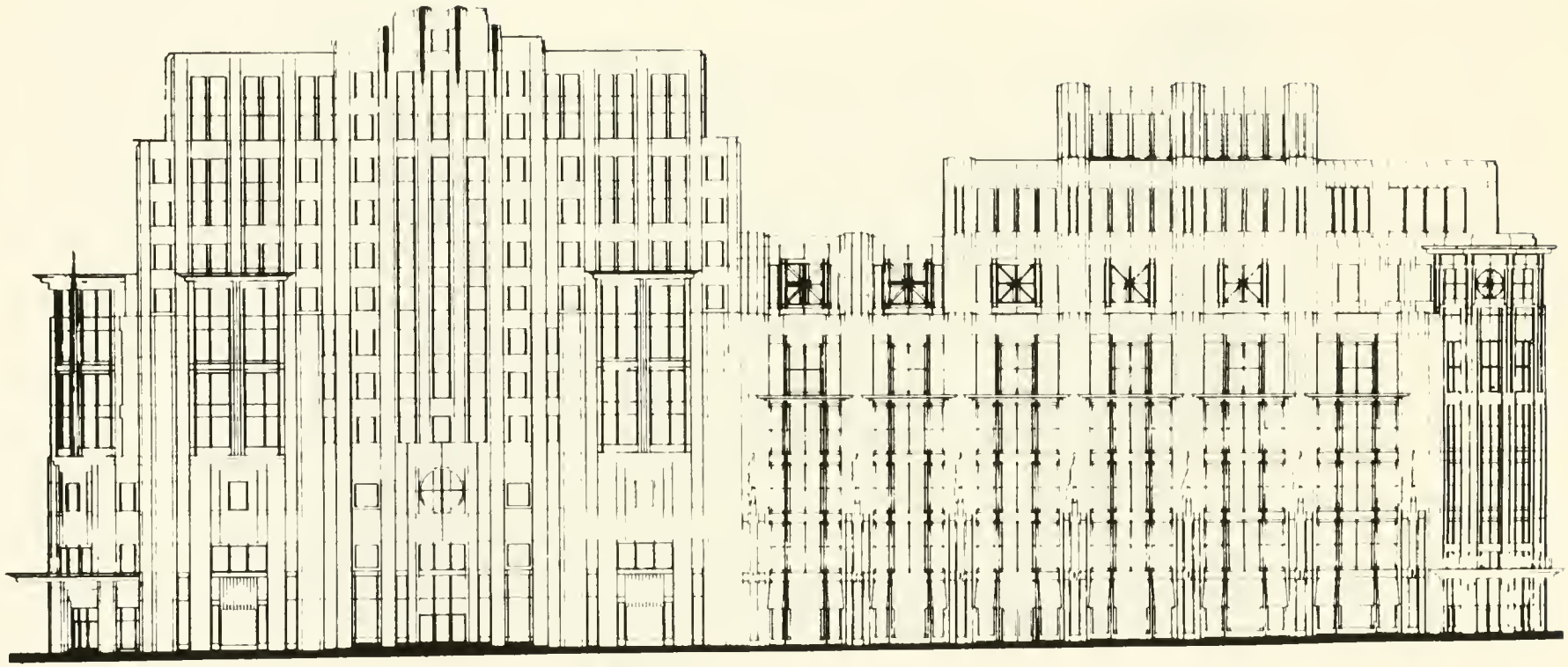


FIGURE VI-25

NEW RETAIL, OFFICE AND JORDAN MARSH AT SUMMER STREET

BOSTON CROSSING

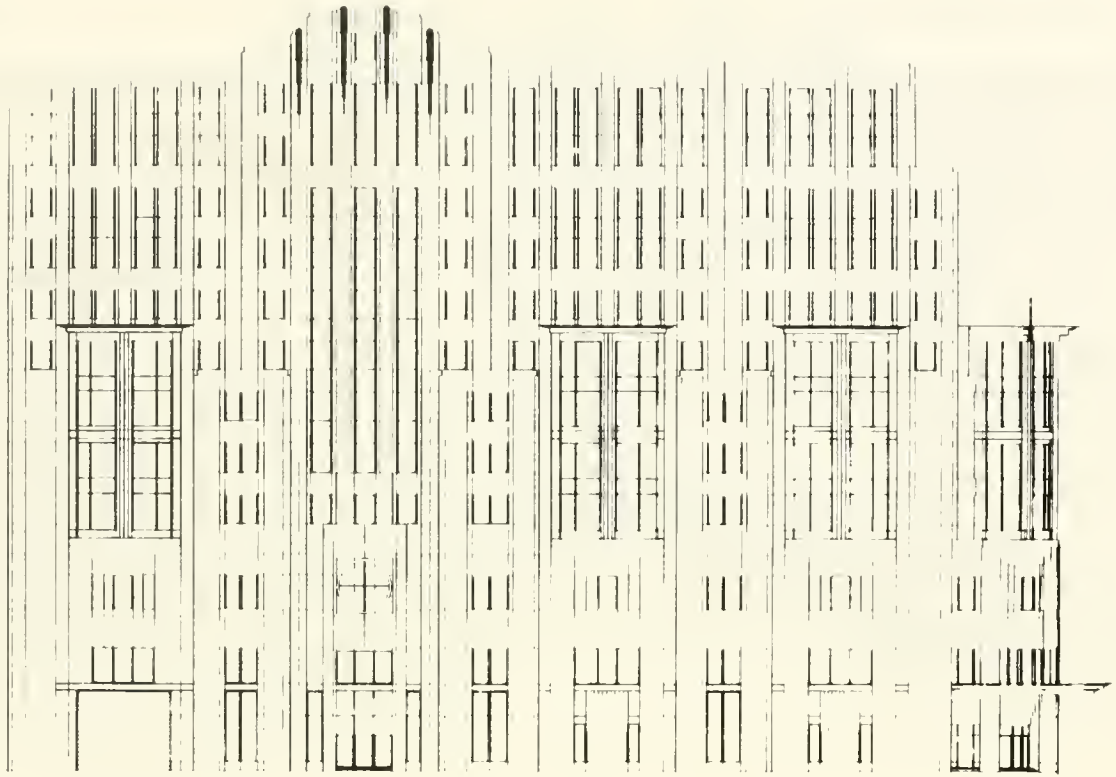


FIGURE VI-26 NEW RETAIL AND OFFICE AT CHAUNCY STREET

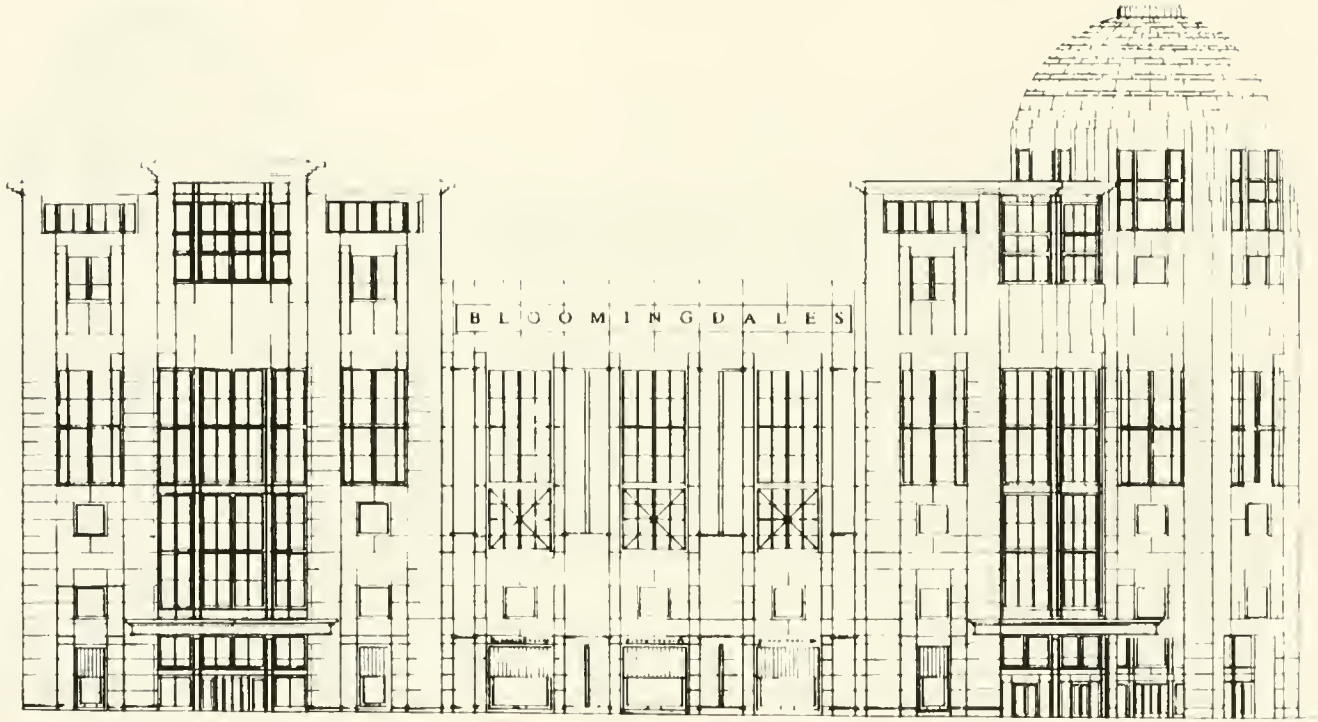


FIGURE VI-27

BLOOMINGDALE'S AT WASHINGTON STREET

pedestrian-level facade detailing is carried around the corner, along Hayward Place and Harrison Avenue Extension, as shown in Figures VI-28 and VI-29, where transparent display windows frame the entrance to Opera Way along Hayward Place. The streetwall is interrupted on Hayward Place to allow for a potential entry way to the MBTA Station; and the truck dock is located on Harrison Avenue Extension near the corner of Hayward Place. Above the first floor, facade details and materials are consistent with the upper levels of the Bloomingdale's store along Washington Street.

The central retail component on Washington Street separating Bloomingdale's and Jordan Marsh exhibits highly-articulated, glass and metal frontage, interspersed with terra-cotta details carried to the top of the five-story structure. A separate entrance aligned with Temple Street is marked by a theatre-marquis entryway, recalling the vernacular of buildings in the Theatre District across Washington Street. Another major entry aligned with West Street, flanked by recessed retail windows, provides an important focus at the center of the development as shown on Figure VI-30.

Along Chauncy Street, the facade of the retail specialty center includes transparent retail windows at the ground floor level, which continues along the facade of the retail component at the corner of Summer and Chauncy Streets. A major entry to the new retail space along Chauncy Street is framed by lanterns, which serve as a supporting base for the overlying office component. Materials and detailing are consistent with those used on the rest of the building as shown in Figures VI-4 and VI-26.

2.4.3 Hotel Recladding

Options illustrating the recladding of the lower floors of the existing buildings on Chauncy Street and Avenue de Lafayette are not provided, as the project proponent does not own the Hotel de Lafayette property and therefore can not alter its facade.

2.4.4 Artists Program

The project proponent has engaged Norman Laliberte, a local renowned visual artist to work with the Boston Crossing team to identify opportunities in the project for permanent and temporary art installations which will enhance the public spaces and image of Boston Crossing, encourage repeat visits of shoppers, tourists, and other visitors, and distinguish the project from its local and national competition among retail and mixed-use centers. Boston Crossing's public artworks can play a significant role in catalyzing a strong image for the Midtown Cultural District.

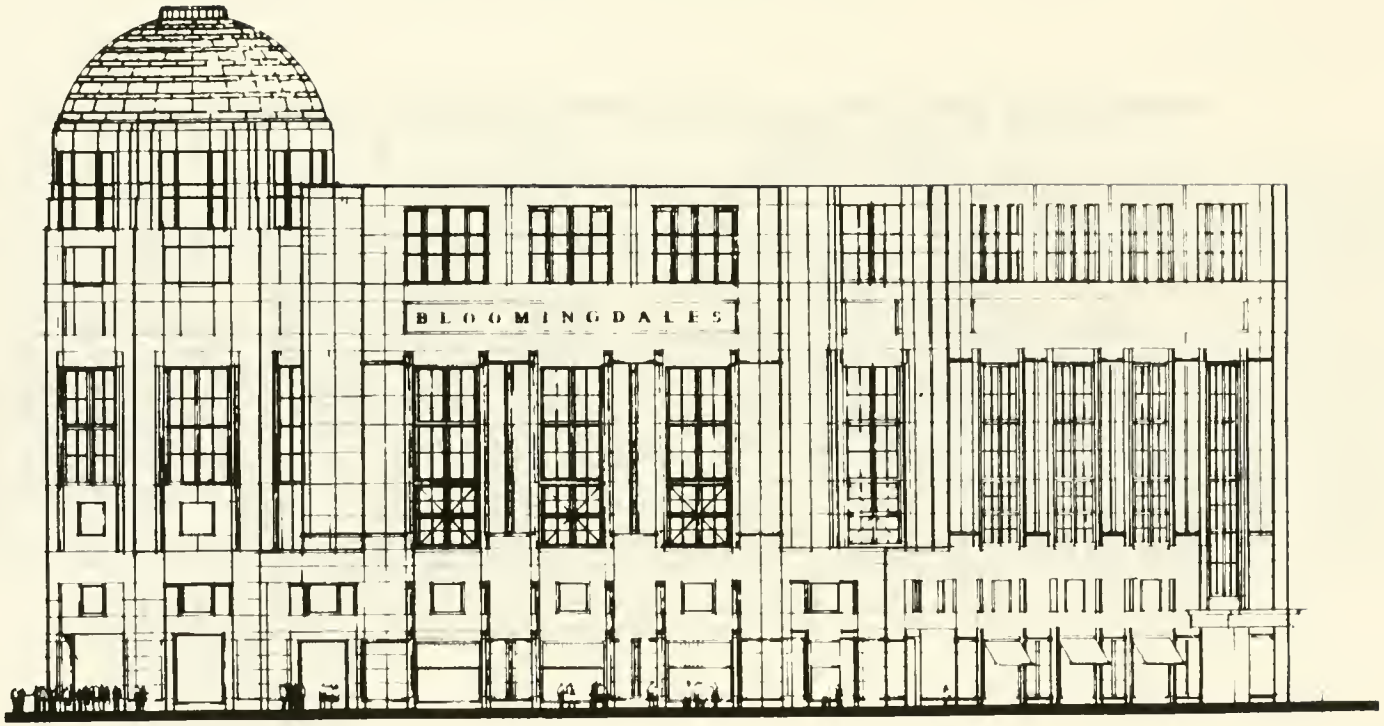


FIGURE VI-28

BLOOMINGDALE'S AT HAYWARD PLACE

BOSTON GROSSING

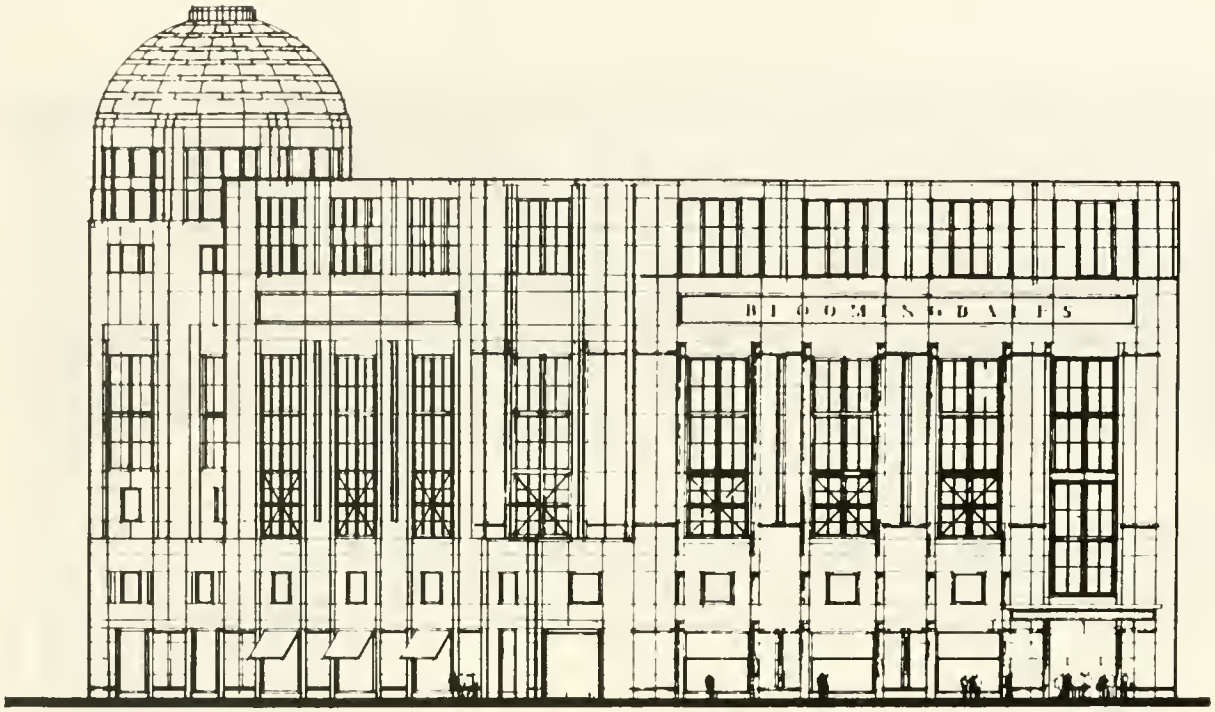


FIGURE VI-29 BLOOMINGDALE'S AT HARRISON AVENUE EXTENSION

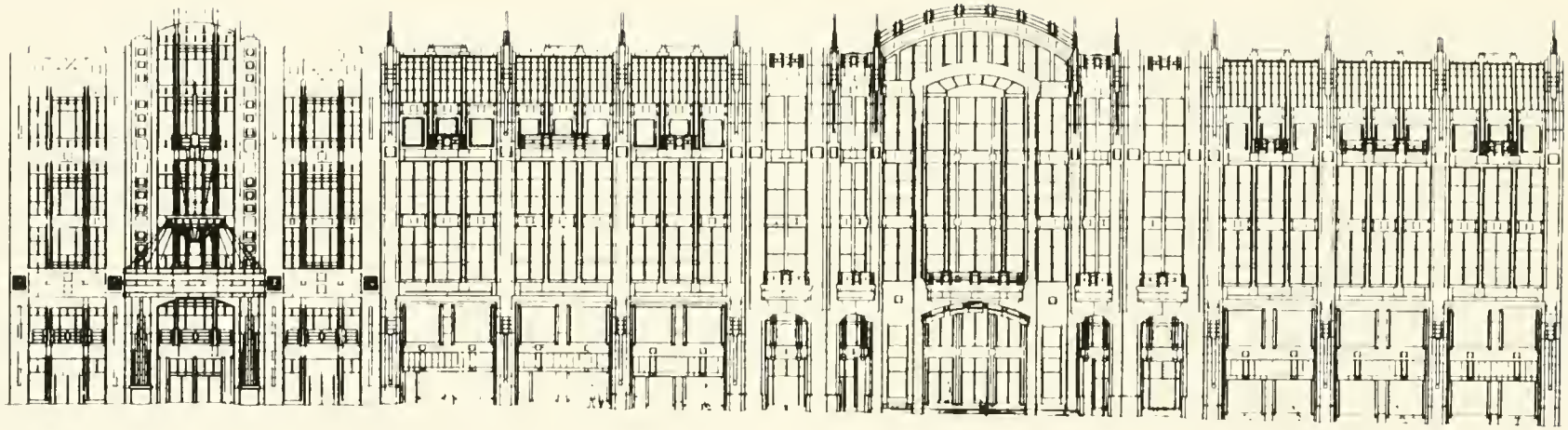


FIGURE VI-30

SPECIALTY RETAIL AT WASHINGTON STREET

BOSTON CROSSING

Mr. Laliberte, a Worcester, Massachusetts-born French-Canadian artist currently in residence in Nahant, Massachusetts has been involved in many Boston-based visual events, and designed many permanent art installations around the City. Laliberte was appointed design consultant for the Vatican Pavilion at the New York's World Fair and has won commissions from prestigious institutions such as the National Art Centre of Ottawa and the American Institute of Architects. He has also been the recipient of numerous awards including the AIGA Award for Design for his "Rainbow Box" (Harper & Row) and the Illustrators Society Award. A copy of his resume is included as Appendix R.

He organized and designed the New Year procession for Boston's 1981 First Night, and has worked under contract for several Boston City agencies and local non-profit private organizations such as the Institute of Contemporary Art. The project proponent, with the guidance of Mr. Laliberte, will work with the architect and the BRA to identify appropriate opportunities for art installations in and around Boston Crossing. An arts consultant may be retained to manage a selection and commission process for execution of both temporary and permanent art installations. Significant participation by local artists is anticipated.

BOSTON CROSSING

VII. HISTORIC RESOURCES COMPONENT

VII. HISTORIC RESOURCES COMPONENT

1.0 INTRODUCTION

This section of the FPIR/FEIR for the Boston Crossing project addresses two issues raised in the BRA and MEPA comments:

1) Technical corrections regarding designations of particular historic buildings or districts; and

2) Explanation of how changes in project design since publication of the DPIR and DEIR affect the Washington Street commercial corridor.

The MEPA scope indicated that the Massachusetts Historical Commission (MHC) determined that the impacts associated with the proposed project would have a significant impact on existing historic resources. This determination was based on MHC's review of an earlier design for the project. The MHC met subsequently with the project designers and BRA staff to review a revised design for the project and thereafter submitted a letter dated September 1, 1989 which acknowledged the updated design and indicated that the new design satisfied many of MHC's earlier concerns with respect to preservation issues. Letters from the MHC are included in Chapter X, Response to Comments. MHC's remaining concerns which are discussed below, include positioning of the Bloomingdale's tower in relationship to the Commonwealth Center towers, and variety of detailing of the Washington Street facades.

2.0 CORRECTION TO THE DPIR AND DEIR

Based on additional information supplied by the Boston Landmarks Commission, the DPIR/DEIR should be modified to reflect the following technical corrections:

- The Paramount Theatre is a designated local landmark in addition to having status as a Class II historic building.

- The Opera House and Filene's Department Store are listed on both the National and State Registers, and are currently being petitioned for local landmark status.

- The Evans House is currently being petitioned for local landmark status.

- The Temple Place Historic District is listed on the National Register.

- The Proctor Building is a designated Boston Landmark and has been nominated as a National Landmark.

- The Ladder Blocks are considered the Pre-Fire Mercantile District.

3.0 TOWER PLACEMENT AND TREATMENT OF WASHINGTON STREET FACADES

In their letter of September 1st, MHC noted a remaining concern that the positioning of the Bloomingdale's tower in relationship to the two proposed Commonwealth Center towers across Washington Street will "squeeze" the Opera House and create a canyon effect along Washington Street.

As a result of a series of design review meetings and considerable effort by the design team, a more fully developed design for the South Tower has been completed. This design reflects the smaller floorplate and lower height that were agreed to at the BRA Board hearing. In addition, the new design approach emphasizes an image of two slim masonry towers with a vertical glassy connecting element -- all of which serve to break down the apparent scale of the tower. Efforts by the design team to coordinate with revised designs for the Commonwealth Center towers have also continued.

Considerable design effort has also been focused on the relationship of the Boston Crossing project to the Opera House itself -- maintaining critical view corridors and respecting its historic importance in the district. An east-west walkway through Bloomingdale's has been named Opera Way and provides views of the Opera House from the interior of the project. To accomplish this, Opera Way has been reconfigured as a two-story arcade with a three-story glass entrance area on Washington Street to allow for expanded viewing of the Opera House Facade.

MHC also requested that more detailed design efforts seek out opportunities for additional variety in the Washington Street facde. This has been accomplished through projecting bay windows with awnings, multiple retail entries, and diverse materials. Above the fifth floor, towers are deeply set back from Washington Street to respect the historic character of the Washington Street commercial corridor. All of the items discussed above are more fully described in Chapter VI, the Urban Design Component.

As requested by the MHC, the Boston Crossing team will continue to work with members of the MHC staff to review design changes, development of design details, and opportunities to improve the project's compatibility with its historic setting.

BOSTON CROSSING

VIII. INFRASTRUCTURE SYSTEMS COMPONENT

VIII. INFRASTRUCTURE SYSTEMS COMPONENT

1.0 INTRODUCTION

The Infrastructure Systems Component addresses issues raised in the Preliminary Adequacy Determination (PAD), the Certificate of the Secretary of Environmental Affairs on the Draft Environmental Impact Report and additional comment letters with respect to infrastructure. It includes refinement of the proposed project's impact on water, sewer, electric, steam, and telecommunications systems, as well as specific commitments to mitigation measures. Details of project connections to infrastructure systems have also been included when such details can be determined. Additional and revised analyses requested for the FPIR/FEIR reflect the revised program as discussed in previous chapters.

2.0 REFINEMENT AND DOCUMENTATION OF UTILITY UPGRADINGS AND RELOCATIONS

The utility system modifications required to accommodate the proposed development have been and will continue to be the subject of discussions with the respective utility company representatives. Concepts for the relocation and/or support-in-place of each system have been developed and approved and details are being developed for each system as the design progresses. Because of the size of the area and the amount of information, the information is difficult to read in Figure VIII-1. A 24" x 36" plan is also available for review upon request.

The Hayward Place parcel with the proposed Bloomingdale's Department Store, is the only area of the development with building structure constructed below grade outside of the footprint of existing buildings and is, therefore, the only parcel requiring utility relocations.

Modifications to existing utility systems required to accommodate the proposed development of the Bloomingdale's site have been identified by studies of as-built documentation, field investigations, and through discussions with utility company representatives. The modifications are summarized below.

- o BWSC (Water and Sewer Systems)
  - Abandon and remove existing 16" High Pressure Fire Service (HPFS) water main in Avenue de Lafayette.

- Abandon and remove existing 12" Southern High Service (SHS) water main in Avenue de Lafayette.
- Install new 16" HPFS water main in Washington Street/Hayward Place/Harrison Avenue Extension.
- Install new 12" SHS water main in Hayward Place/Harrison Avenue Extension.
- Abandon existing 10" SHS water main in Hayward Place/Harrison Avenue Extension
- Abandon and remove existing storm drain in Avenue de Lafayette.
- Abandon and remove existing sanitary sewer in Avenue de Lafayette.

o BECO (Electric System)

- Relocate 1-13.8 kilovolt (kV) line in existing conduit in Avenue de Lafayette.
- Abandon and remove the southerly of two duct and manhole (MH) systems in Avenue de Lafayette.
- Breakout and support the northerly of two conduit and MH systems in Avenue de Lafayette.
- Install permanent conduit and electric rooms in Avenue de Lafayette alignment within the proposed building mechanical level and in Washington Street.
- Breakout support and reconstruct conduit and MH system in Harrison Avenue Extension alignment within the proposed building mechanical level.
- Abandon and remove Secondary Network Vault (SNV) electric vault in Harrison Avenue Extension.

o NET (Telecommunications System)

Install permanent conduit and telephone room in the first Lafayette Place garage level and in Avenue de Lafayette and Washington Street.

- Cut over New England Telephone (NET) facilities.
- Abandon and remove duct and MH system in Avenue de Lafayette.

o Boston Gas Co. (Natural Gas System)

- Abandon and remove a segment of 6" line in Harrison Avenue Extension.

- o BTEC (Steam System)
  - Potential removal of abandoned 12-inch line in Harrison Avenue Extension.

- o City of Boston (All Systems)
  - Relocate Boston Transportation Department (BTD) signal interconnection cable in Avenue deLafayette.
  - Remove BTD traffic signal at the Washington Street/Avenue de Lafayette intersection.
  - Modify BTD traffic signal at the Washington Street/Hayward Place intersection.
  - Abandon and remove existing City of Boston street light system on Washington Street, Hayward Place, Harrison Avenue Extension, and Avenue de Lafayette and construct a new system around the site.
  - Remove and replace a segment of Western Union Co. conduit in Harrison Avenue Extension.

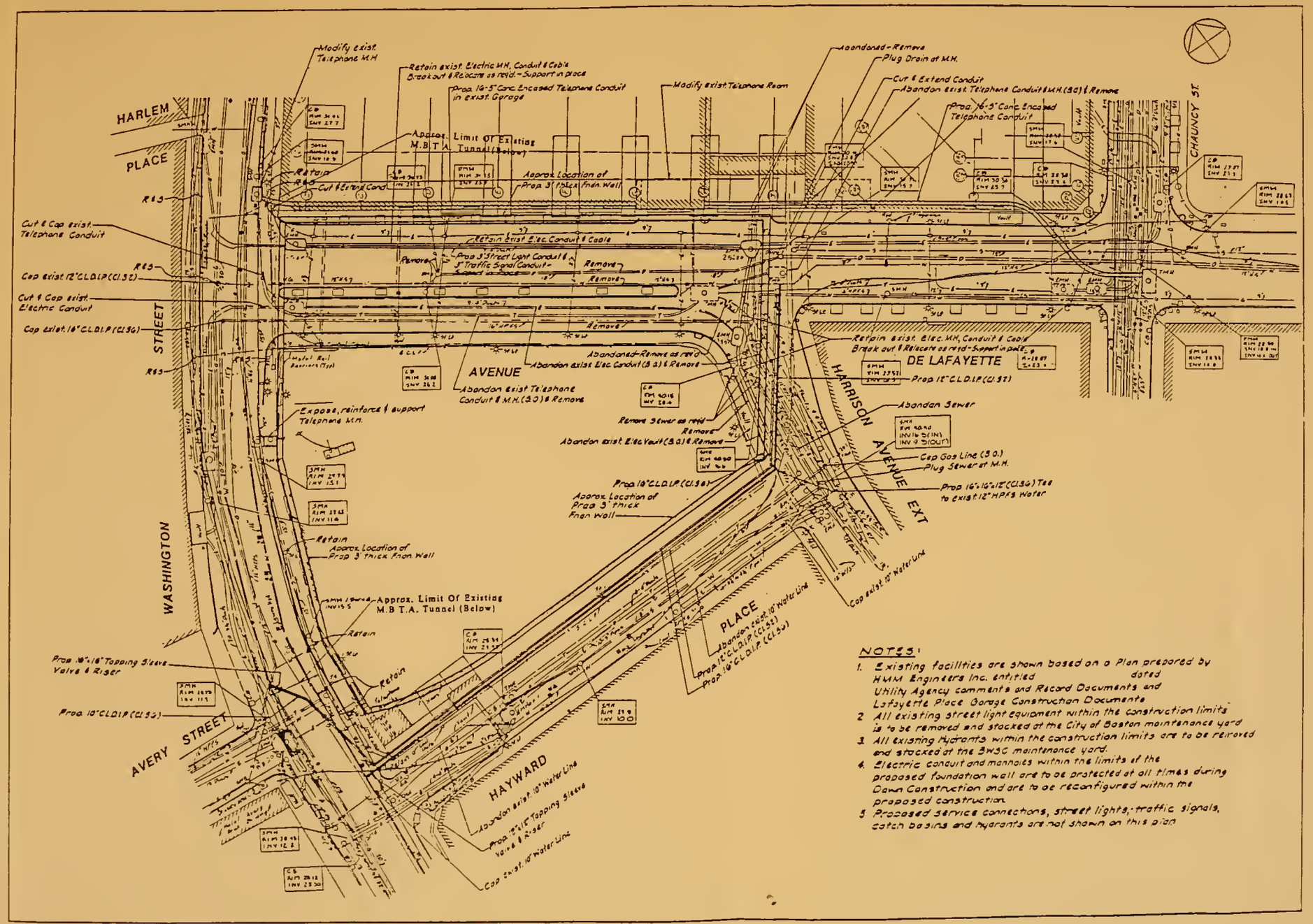
- o Western Union (Telecommunications System)
  - Remove and replace existing duct system in Harrison Avenue Extension.

All modifications to existing systems will be done to the standards of the appropriate utility and will be coordinated with other site work to minimize the impact on system users and on transportation operations in the adjacent public ways. The details of construction timing and sequence will be developed during project design and presented in the project's Construction Management Plan.

3.0 SYSTEMS CAPACITY ANALYSIS INCLUDING OTHER DOWNTOWN PROJECTS

3.1 Sewer Systems

To determine the impact of the proposed development on the existing sewer system, an analysis was performed on downstream segments of the 48" diameter Massachusetts Department of Public Works (MDPW) combined sewer between manholes 216 and 225.



NOTES:

1. Existing facilities are shown based on a Plan prepared by HMM Engineers Inc. entitled dated Utility Agency comments and Record Documents and Lafayette Place Garage Construction Documents
2. All existing street light equipment within the construction limits is to be removed and stocked at the City of Boston maintenance yard
3. All existing hydrants within the construction limits are to be relocated and stocked at the BWSC maintenance yard.
4. Electric conduit and manholes within the limits of the proposed foundation wall are to be protected at all times during Down Construction and are to be reconfigured within the proposed construction.
5. Proposed service connections, street lights, traffic signals, catch basins and hydrants are not shown on this plan

BOSTON CROSSING

FIGURE VIII-1
Utility System Modifications

HMM ASSOCIATES, INC.

This section of the system has a limiting capacity under free flowing (gravity) conditions of 25.1 million gallons per day (MGD). Figure VIII-2 depicts the area tributary to the segments under study. This area includes the proposed Boston Crossing project, 125 Summer Street, the proposed One Lincoln Street development, a portion of the Midtown Cultural District and part of the Commercial Palace District. The total area tributary to the study point is approximately 18.5 acres.

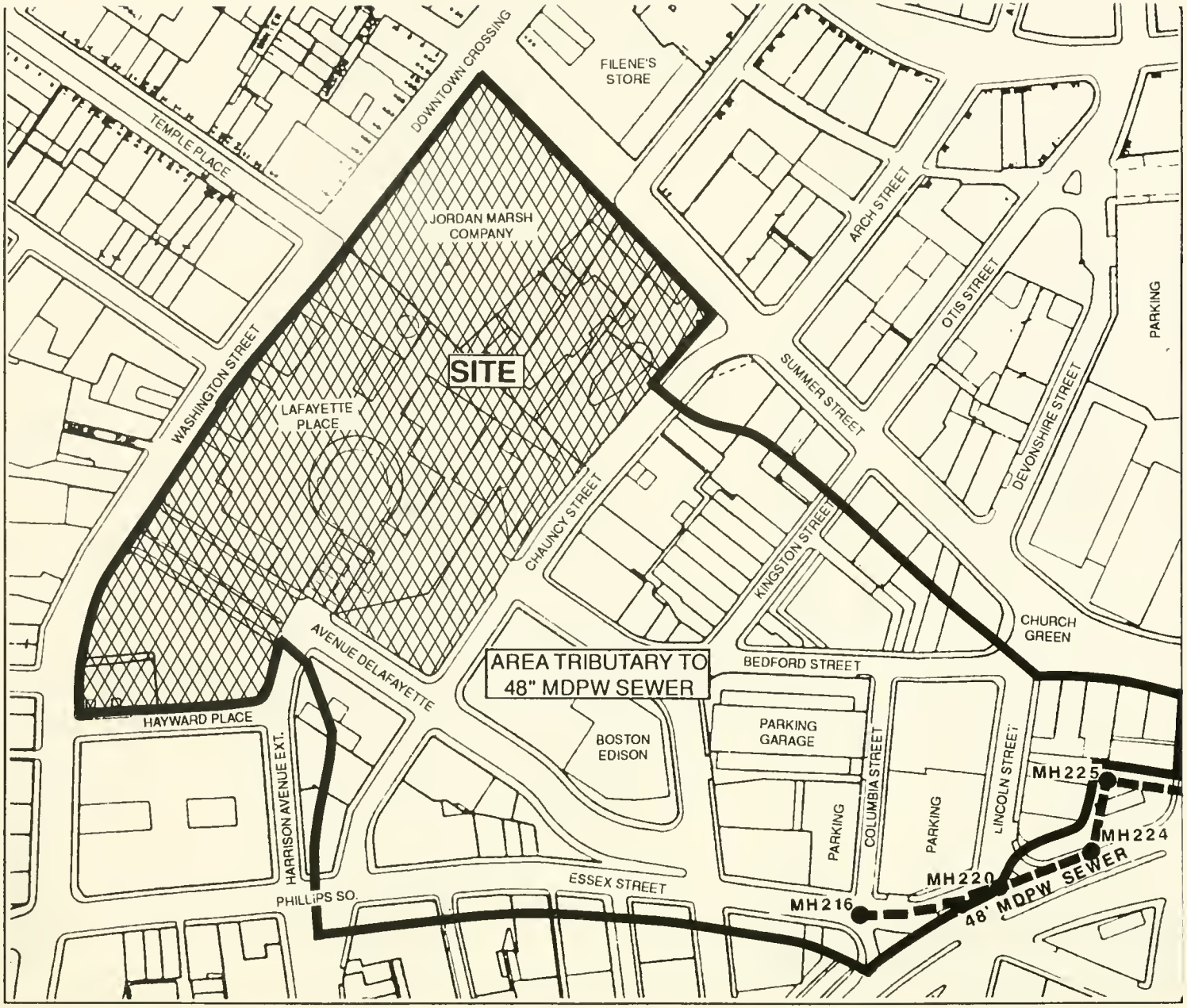
It is assumed that all storm flows from the proposed Boston Crossing site and all sanitary flows from the southern portion and half of the central portion of the site would drain into this sewer.

The 125 Summer Street project was included in the analysis as it may be a tributary to this portion of the 48-inch MDPW line. The exact locations of the sewer service connections are not known, so, to be conservative, the building was assumed to fully contribute to the segments under study. Wastewater estimates were based on volumes presented in the 125 Summer Street Environmental Impact Assessment dated May 23, 1986.

The tributary portions of the Midtown Cultural District and the Commercial Palace District were assumed to be at the full build level allowed by the present zoning. Sewage generation rates were based on the following assumptions:

- 155-Foot Height Limit
- 13 Stories per Building
- Office Space as Primary Use
- Sewage Generations Rate of 75 gallons/1,000 sf
- Cooling Tower Blowdown Rate of 15 gallons/1,000 sf

Table VIII-1 shows the total sewage generation for the area tributary to the 48-inch MDPW sewer line. At the full build out of the tributary area, the total dry weather wastewater generation would be approximately 0.4 MGD. The addition of Boston Crossing wastewater brings this total to approximately 0.59 MGD, utilizing 2.4% of the 25.1 MGD capacity. Using a peaking factor of 3, results in a peak flow of 1.77 MGD or 7.3% of the 48-inch MDPW sewer capacity.



BOSTON CROSSING

FIGURE VIII-2
Area Tributary to the 48-Inch MPWD Sewer

SCALE: FEET
0 200

HMM ASSOCIATES, INC.

TABLE VIII-1

WASTEWATER GENERATION INFORMATION FOR AREA TRIBUTARY TO 48" MDPW SEWER

Development	Use Category	Area (gsf)	Sewage (gpd)	Blowdown (gpd)	Wastewater (gpd)
Boston Crossing	Hotel	413,000	67,000	6,200	73,200
	Office	595,225	44,600	8,900	53,500
	Retail	554,500	27,700	8,300	36,000
	Restaurant	45,500	39,800	680	40,480
	Museum	10,000	600	200	800
125 Summer Street	Office	495,000	37,100	7,400	44,500
	Restaurant	2,500	3,500	100	3,600
One Lincoln Street	Office	1,013,500	76,013	15,203	91,216
	Retail	28,400	1,420	426	1,840
	Restaurant	10,000	19,250	150	19,400
	Public Space	26,600	665	399	1,064
Midtown Cultural District and Commercial Palace District	Office	2,500,000	187,500	37,500	225,000
TOTALS		5,694,225			590,600

To determine the impact of the development during wet weather, rational method calculations were performed for storm events up to and including the 50-year storm. The calculations were based on a drainage area of 18.5 acres, a runoff coefficient of 0.95 and a storm duration of 20 minutes. The results* are as follows:

- o 2-Year Storm Event - 38.3 cubic feet per second (cfs)
- o 5-Year Storm Event - 49.8 cfs
- o 10-Year Storm Event - 54.3 cfs
- o 20-Year Storm Event - 60.5 cfs
- o 50-Year Storm Event - 70.2 cfs

The existing 48-inch MDPW sewer has a capacity of 25.1 MGD which is equivalent to approximately 40 cfs. Therefore, the sewer will carry up to the 2-year storm event under free flow conditions. During storm events exceeding the 2-year frequency, a surcharge condition will exist. In order to pass the 50-year flows, the sewer would surcharge 0.6 feet. This should not cause a problem in the area as the water surface will be approximately 11 feet below the ground surface elevation. By contrast, the existing condition, assuming no sanitary flow, during a 50-year storm event this segment of sewer would surcharge 0.56 feet. No existing capacity related problems have been reported for this drainage area.

The analyses indicate that the existing sewer system has adequate capacity to handle the proposed project, as well as the full build out of the areas tributary to the 48-inch MDPW sewer during dry weather. During wet weather, the existing sewer has the capacity to pass the 50-year storm event in combination with dry weather flows under a slight surcharge condition.

The remaining 200,000 gpd of additional wastewater generated at the northern and other half of the central portion of the proposed Boston Crossing project will be discharged to the 36" x 51" sewer in Summer Street. This flow represents 1.2% of the total capacity of the limiting segment in this line. Because all storm flows from the site would be re-routed to the Essex Street sewer, there would be a net decrease in peak flows in the sewer in Summer Street.

---

* Calculated flows include sanitary sewage flows.

The portion of the project wastewater discharging to the Essex Street sewer represents approximately 0.5% of the East Side Interceptor (ESI) capacity and less than 2% of the Purchase Street Regulator capacity; therefore, the ESI and other downstream segments of the sewer system should not be significantly impacted by the proposed development. The frequency of combined sewer overflows also should not be significantly impacted due to the recent improvements to the ESI, the Purchase Street Regulator and the regulator's storage chamber. The area sewer system, therefore, should adequately handle the Boston Crossing wastewater flows.

3.2 Other Infrastructure

In addition to the capacity of the sewer system, the capacities of the following infrastructure systems were also considered:

- Storm Drainage
- Water Distribution
- New England Telephone
- Electric Service
- Steam Service
- Natural Gas Service

Appendix L contains letters from several of the utility companies stating their capabilities of supplying adequate service to the proposed Boston Crossing project. The storm drainage will not change with the addition of the proposed Boston Crossing project or the possible full as-of-right build-out of the Midtown Cultural District, because there will be no increase in impermeable surface in the area. Therefore, the existing system has the capacity for the Boston Crossing project and the future as-of-right build-out. The water distribution system will be modified, as requested by the BWSC, to allow the project to be serviced entirely from the Southern Low Service (SLS) system for domestic water use. This will reserve the capacity of the Southern High Service (SHS) distribution system in the project area for the maximum use in internal building fire protection systems. The SLS distribution system with the proposed project modifications, as well as planned BWSC upgrades, has adequate capacity to meet the needs of the area development. It is BWSC policy to assess impacts associated with a proposed project at the time the project is proposed. At that time, necessary improvements are identified by the BWSC to maintain

the level of service to existing and proposed projects. The New England Telephone Co. letter of September 4, 1989 states that the company's distribution network is capable of providing for the telecommunications needs of the proposed project. Boston Edison has also stated that the existing Boston Edison Co. distribution system is capable of supplying electricity to the project, as stated in the August 29, 1989 letter from the Boston Edison Company included in Appendix L. Discussions with Boston Thermal Energy Corporation (BTEC) staff indicate that the existing steam distribution system within the project area has adequate capacity to meet the needs of this and other anticipated projects without impacting their ability to service the existing users. Appendix L includes a letter from Boston Therman Energy Corporation stating their ability to accommodate the proposed Boston Crossing project. Boston Gas Company policy is to evaluate each project as it is proposed and not to commit to capacity for future projects until they are considered real by the Boston Gas Company.

4.0 IMPROVEMENTS

4.1 Introduction

General agreements are in place with regard to the implementation of the necessary utility system modifications that have been identified by the developer and the appropriate utility company.

4.2 Sewer Systems

Conceptual studies have been performed to determine the feasibility of constructing a new separate storm drain or sanitary sewer system in the project area and are being evaluated with the BWSC. If these evaluations result in the development of a feasible system, an arrangement will be made between the proponent and the BWSC as to the method and phasing of its implementation.

4.3 Water Distribution Systems

To allow the project to be serviced entirely from the SLS system for domestic water, the proponent is reviewing the planned extension of the 12" SLS water line within the Boston Crossing project with the Boston Water and Sewer Commission. The 12" Southern

High Service (SHS) and 16" High Pressure Fire Service water mains proposed to be located in Harrison Avenue Extension and Hayward Place are required to allow the existing lines located within the proposed project limits in Avenue de Lafayette to be discontinued and will be implemented by the developer.

In addition, the costs of the water system modifications described in Section 2.0 of this Component will be borne by the developer.

5.0 STEAM SYSTEM EXPANSION

As explained earlier, discussions with BTEC staff confirmed in their letter of August 29, 1989 indicate that the existing steam distribution system within the project area has adequate capacity to meet the needs of this and other anticipated projects without impacting BTEC's ability to service existing users. Services to the project site may require modifications to meet projected loads but any modifications to the steam system in streets directly adjacent to the project are within areas presently scheduled for disruption by modifications to BWSC water mains. Details for this construction, if required, will be developed in close coordination with other site activities to minimize the impact on adjacent traffic operations.

6.0 RECYCLING AND OTHER CONSERVATION MEASURES

The use of steam condensate for cooling tower make-up has been evaluated and will be implemented in the project design if feasible. In addition, air cooled and closed loop water cooled equipment have each been evaluated for use in the proposed project. For a facility of this size, use of these types of equipment are often not feasible. Both air cooled and closed loop equipment would require more roof area than will be available, would be unsightly, and would result in greatly increased energy demands.

Other conservation measures will be considered, however, and evaluated based on the actual degree of conservation afforded and other concerns.

7.0 INCLUSION OF LAFAYETTE HOTEL IN THE ANALYSIS CHARTS

The DPIR and DEIR did not include the Lafayette Hotel in the analysis of existing conditions as its utility requirements will not change due to the development. The following text and Tables VIII-2 through VIII-7 present estimated impacts of the proposed Boston Crossing project relative to existing conditions and have been revised as requested to include the Lafayette Hotel in the analysis of existing conditions.

As shown in Table VIII-2, total new water use is estimated at 565,200 gpd as compared to existing use of 273,700 gpd. This represents an increase in use for the site of 291,500 gpd as previously reported in the DPIR and DEIR. However, because the Lafayette Hotel consumption is now considered in the existing and proposed conditions, this now represents an increase in water use of 107% versus the 183% increase estimated in the DPIR and DEIR.

Table VIII-3 presents wastewater generation estimates. Estimated new generation is 390,600 gpd which represents an increase of 202,300 gpd over the existing generation rate of 188,300 gpd. This is an increase of 107% rather than the 197% cited in the DPIR and DEIR.

Estimated annual electric use is compared in Table VIII-4. Total new use is estimated at 100.89 x 10^6 kilowatt-hours (kwh)/yr as compared to existing use of 65.01 x 10^6 kwh/yr. This is an increase of 35.88 x 10^6 kwh/yr. Because the Lafayette Hotel is now included in the existing conditions, this represents an increase of 55% rather than the 79% cited in the DPIR and DEIR.

Table VIII-5 presents estimates of annual steam use. Greater reliance on steam has resulted in an increase in use over existing conditions of 67.95 x 10^9 British Thermal Units (BTU)/yr or 216%.

Annual natural gas use is estimated in Table VIII-6. Total new use is estimated at 96.67 x 10^6 cf/yr with existing use estimated at 58.33 x 10^6 cf/yr. This is a net increase in use of 38.34 x 10^6 cf/yr or 66%.

The total energy use inventory estimate appears as Table VIII-7. Existing energy use is estimated at 311.67 x 10^9 Btu/yr with the proposed project resulting in a net increase of 228.76 x 10^9 Btu/yr or 540.43 x 10^9 Btu/yr total use. This is an increase of 73% over existing conditions.

TABLE VIII-2
TOTAL AVERAGE DAILY WATER USE FOR THE PROPOSED PROJECT
(DOMESTIC USE BASED ON 115% OF TITLE 5 ESTIMATES)

Structure	Use Category	AVERAGE DOMESTIC Existing (gpd)	AVERAGE DOMESTIC Net New* (gpd)	AVERAGE DOMESTIC Total (gpd)	PEAK COOLING** Existing (gpd)	PEAK COOLING** Net New* (gpd)	PEAK COOLING** Total (gpd)	Total New (gpd)	Total (gpd)
Northern Portion									
- Jordan Marsh	Retail	46,000	(22,400)	23,600	44,000	(21,500)	22,500	(43,900)	46,100
- Tower	Office	0	73,600	73,600	0	42,700	42,700	116,300	116,300
	Child Care	0	1,800	1,800	0	300	300	2,100	2,100
	Athletic Club	0	11,500	11,500	0	1,100	1,100	12,600	12,600
	Cinema	0	3,100	3,100	0	2,300	2,300	5,400	5,400
Subtotals		46,000	67,600	113,600	44,000	24,900	68,900	92,500	182,500
Central Portion									
	Hotel	77,100	0	77,100	22,700	0	22,700	0	99,800
	Retail	15,100	18,700	33,800	14,400	18,000	32,400	36,700	66,200
	Restaurant	52,300	49,100	101,400	2,100	2,700	4,800	51,800	106,200
Subtotals		144,500	67,800	212,300	39,200	20,700	59,900	88,500	272,200
Southern Portion									
- Bloomingdale's	Retail	0	14,400	14,400	0	13,800	13,800	28,200	28,200
- Tower	Office	0	51,300	51,300	0	29,800	29,800	81,100	81,100
	Museum	0	700	700	0	500	500	1,200	1,200
Subtotals		0	66,400	66,400	0	44,100	44,100	110,500	110,500
TOTALS		190,500	201,800	392,300	83,200	89,700	172,900	291,500	565,200

* Figures in the Net New columns reflect net change in usage due to net change in area.

** Summertime Use Only.

TABLE VIII-3
TOTAL WASTEWATER GENERATION INFORMATION FOR THE PROPOSED PROJECT

Structure	Use Category	DOMESTIC SEWAGE Existing (gpd)	DOMESTIC SEWAGE Net New* (gpd)	DOMESTIC SEWAGE Total (gpd)	PEAK COOLING BLOWDOWN Existing (gpd)	PEAK COOLING BLOWDOWN Net New* (gpd)	PEAK COOLING BLOWDOWN Total** (gpd)	Total New (gpd)	Total (gpd)
Northern Portion									
- Jordan Marsh	Retail	40,000	(19,500)	20,500	12,000	(5,900)	6,100	(25,400)	26,600
- Tower	Office	0	64,000	64,000	0	12,800	12,800	76,800	76,800
	Child Care	0	1,600	1,600	0	100	100	1,700	1,700
	Athletic Club	0	10,000	10,000	0	600	600	10,600	10,600
	Cinema	0	2,700	2,700	0	700	700	3,400	3,400
Subtotals		40,000	58,800	98,800	12,000	8,300	20,300	67,100	119,100
Central Portion									
	Hotel	67,000	0	67,000	6,200	0	6,200	0	73,200
	Retail	13,100	16,300	29,400	3,900	4,900	8,800	21,200	38,200
	Restaurant	45,500	42,700	88,200	600	700	1,300	43,400	89,500
Subtotals		125,600	59,000	184,600	10,700	5,600	16,300	64,600	200,900
Southern Portion									
- Bloomingdale's	Retail	0	12,500	12,500	0	3,800	3,800	16,300	16,300
- Tower	Office	0	44,600	44,600	0	8,900	8,900	53,500	53,500
	Museum	0	600	600	0	200	200	800	800
Subtotals		0	57,700	57,700	0	12,900	12,900	70,600	70,600
TOTALS		165,600	175,500	341,100	22,700	26,800	49,500	202,300	390,600

* Figures in the Net New columns reflect net change in usage due to net change in area.

** Winter operations provide steam condensate in lieu of summer cooling blowdown. The additional net condensate discharge of 43,700 gpd is not included in the above wastewater amount.

TABLE VIII-4

ANNUAL ELECTRIC USE FOR EXISTING STRUCTURES AND PROPOSED PROJECT

(kwh/yr x 10^6)

Structure	Existing Area (gsf)	Existing Electric Use	Proposed Total Area* (gsf)	Total Estimated Electric Use*
Northern Portion				
Jordan Marsh	800,000	28.01	410,000	11.18
Tower	--	--	949,275	25.86
Central Portion				
Lafayette Place	300,000	15.57	700,000	19.09
Lafayette Hotel	413,000	21.43	413,000	21.43
Southern Portion				
Bloomingdale's	--	--	250,000	6.82
Tower	--	--	605,225	16.51
TOTALS	1,513,000	65.01	3,327,500	100.89

* Values based on full occupancy.

TABLE VIII-5

ANNUAL STEAM USE FOR EXISTING PROJECT AND PROPOSED DEVELOPMENT

(Btu/yr x 10^9)

Structure	Existing Area (gsf)	Existing Steam Use	Proposed Total Area* (gsf)	Total Estimated Steam Use*
Northern Portion				
Jordan Marsh	800,000	31.47	410,000	13.99
Tower	--	--	949,275	32.36
Central Portion				
Lafayette Place	300,000	--	700,000	23.89
Lafayette Hotel	413,000	--	413,000	--
Southern Portion				
Bloomingdale's	--	--	250,000	8.53
Tower	--	--	605,225	20.65
TOTALS	1,513,000	31.47	3,327,500	99.42

* Values based on full occupancy.

TABLE VIII-6

ANNUAL NATURAL GAS USE FOR EXISTING STRUCTURES AND PROPOSED PROJECT

(cf/yr x 10^6)

Structure	Existing Area (gsf)	Existing Gas Use	Proposed Total Area* (gsf)	Total Estimated Gas Use
Northern Portion				
Jordan Marsh	800,000	5.09	410,000	6.12
Tower	--	--	949,275	4.70
Central Portion				
Lafayette Place	300,000	22.40	700,000	48.28
Lafayette Hotel	413,000	30.84	413,000	30.84
Southern Portion				
Bloomingdale's	--	--	250,000	3.73
Tower	--	--	605,225	3.00
TOTALS	1,513,000	58.33	3,327,500	96.67

* Values based on full occupancy.

TABLE VIII-7

TOTAL ENERGY USE INVENTORY*

(Btu/yr x 10^9)

Structure	Existing Area (gsf)	Existing Energy Use	Total Proposed New Area (gsf)	Future Energy Use
Northern Portion				
Jordan Marsh	800,000	132.16	410,000	58.28
Tower	--	--	949,275	125.33
Central Portion				
Lafayette Place	300,000	75.53	700,000	137.32
Lafayette Hotel	413,000	103.98	413,000	103.98
Southern Portion				
Bloomingdale's	--	--	250,000	35.54
Tower	--	--	605,225	79.98
TOTALS	1,513,000	311.67	3,327,500	540.43

* Includes energy for heating, cooling, lighting, mechanical systems and cooking.

Comparison with the DPIR will show that inclusion of the Lafayette Hotel under the existing conditions has reduced the relative impact of the proposed project. The net change in infrastructure estimates has decreased slightly from the DPIR due to floor area modifications and therefore, as also described in the DEIR and DPIR, the utility systems have adequate capacity to accommodate the proposed project. Appendix L includes letters from the utilities stating their ability to accommodate the project.

8.0 DESIGN OF VAULTS

The roof of the proposed garage structure, in areas where it extends beyond the proposed face of building, will be constructed a minimum of three feet below the proposed finish grade. This will allow the construction of surface facilities over the garage using details the same as or similar to adjacent areas with no discernable reflection of the garage structure at the surface. The treatment of the sidewalks surrounding the Boston Crossing project is described in Section 2.2.7 of the FPIR/FEIR Urban Design Component. The project will be designed in concert with the new Downtown Crossing and Cultural District standards, as they are finalized by the Boston Public Works Department.

9.0 MEASURES TO IMPLEMENT MWRA I/I REDUCTION OBJECTIVES

A separate storm drain system to service the project site is presently being evaluated in conjunction with the BWSC. If it is found that this system is feasible, its implementation will allow the project to exceed the MWRA's expressed I/I goal. In addition, the project is incorporating in its design low flow water usage systems that will minimize the amount of water demand and sewage generated from the project.

10.0 EVALUATION OF THE OPTIMUM WATER SUPPLY SYSTEM

The BWSC has requested, and the proponent has agreed to separate the project water demand to the extent feasible. This will mean that the project's on-site fire protection system service connections will be from the SHS water system and that its

domestic water supply will be from the SLS system. This commitment by the developer leads to the requirement, expressed in Section 4.0 above, of the extension of the SLS system which can probably be implemented by the developer within the basement of the project.

11.0 IMPACTS ON THE "T"

11.1 Background

The MBTA has existing facilities located adjacent to the project site in Washington Street and in Summer Street. These facilities service the MBTA's Orange and Red rapid transit lines, respectively.

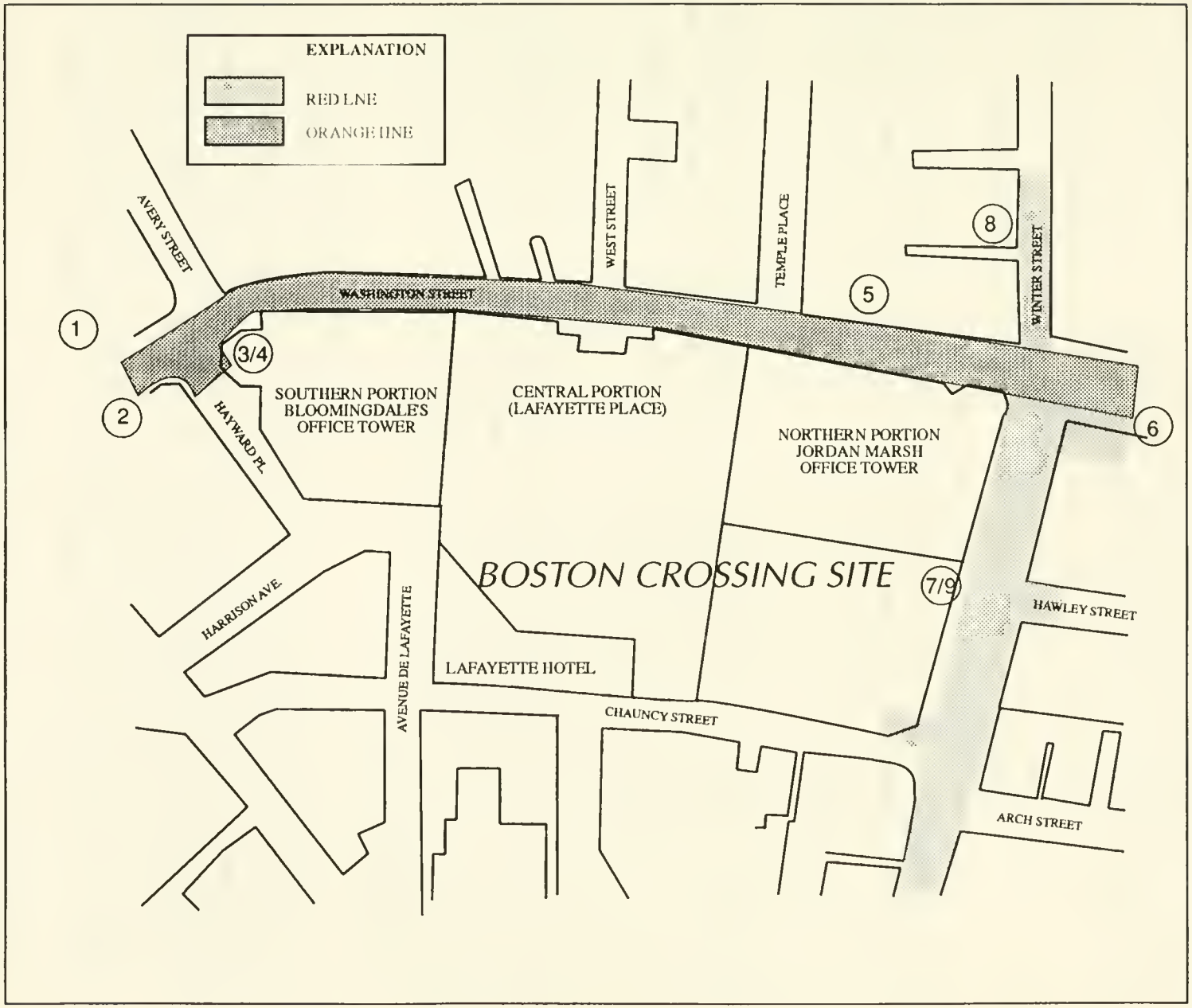
The Orange Line on Washington Street and the Red Line facilities on Summer Street, as shown on Figure VIII-3, consist of the following:

1) The Chinatown-Boylston platform which is located a block south of the site, and is on the opposite side of the tunnel from the project site with an entrance/exit to grade at the northwest corner of Washington Street and Boylston Street;

2) The Chinatown-Essex platform which is located within the block directly to the south of the project and ends at the project's southerly border on Hayward Place with an existing entrance/exit to grade at the southeast corner of Washington Street and Essex Street and a new one under construction within the 600 Washington Street block;

3) An emergency exit from the Chinatown-Essex platform is located in Hayward Place and comes to grade within an existing easement located partially within the proposed project limits on the northeast corner of Washington Street and Hayward Place;

4) A tunnel ventilation facility located in Hayward Place which comes to grade within the same easement as #3 described above;



BOSTON CROSSING

FIGURE VIII-3
Existing MBTA Facilities

HMM ASSOCIATES, INC

5) The Downtown Crossing-Outbound Orange Line platform which is located on the opposite side of the tunnel from the project site beginning at West Street and extending beyond the site limits at Winter Street with an entrance/exit to grade on Washington Street between West Street and Temple Place;

6) The Downtown Crossing-Inbound Orange Line platform which is located on the project side of the tunnel beginning at the northerly project limit at Summer Street and extending to the north;

7) The Downtown Crossing Summer Street Concourse which is located beneath Summer Street (over the Red Line platform) for the length of the project site which accommodates transfer between the Orange, Red, and Green Lines, via the Winter Street concourse, and with entrances/exits to grade on Washington Street at the northwest corner of Washington Street and Summer Street and on Summer Street at the northeast corner of Summer Street and Hawley Street and at the southwest corner of Summer Street and Chauncy Street.

8) The Winter Street Concourse which is located opposite the project site beneath Winter Street extends from the Downtown Crossing stations on the Orange and Red Lines at Washington Street to the Park Street station on the Green Line at Tremont Street.

9) The Red Line Downtown Crossing Station inbound and outbound track is located beneath Summer Street and the Summer Street Concourse for the length of the project site.

11.2 Project Impacts

As is currently planned, the proposed Boston Crossing project will directly effect the existing MBTA facilities at only one location. The emergency exit/tunnel ventilation facility located at the Washington Street/Hayward Place intersection must be modified to accommodate the proposed Bloomingdale's, the garage below and the 500 Washington Street tower foundation and entrances. The existing below-grade facility will be maintained, but the access to grade for both the emergency exit and the ventilation system will be revised to accommodate the proposed construction of

the Boston Crossing project. Details of the required modification, as well as construction sequencing and timing, are being developed in coordination with the MBTA to assure that the function of this facility is not adversely impacted by the project.

Indirectly, the project will be impacting the existing MBTA facilities in a positive way as it is planned to upgrade both the Summer Street Concourse and the Summer Street/Chauncy Street entrance/exit in conjunction with the proposed project. Plans for these upgrades will be developed in close coordination with the MBTA to encourage participation by the other major abutters to the Concourse and to assure that the final product both serves the needs of the MBTA ridership and is a good neighbor to the completed development.

11.3 Mitigation Measures

Due to the proximity of the proposed project construction to the existing MBTA facilities, the development will implement extensive pre-condition and construction monitoring surveys of all adjacent MBTA facilities to ensure that construction activities required to develop the site do not adversely impact the MBTA facilities. The pre-construction condition survey will include all facilities within the projected impact limits of the project site and will be performed in conjunction with MBTA representatives and to MBTA standards. The survey will accommodate the identification of pre-existing faults in these facilities as well as confirming any "special case" areas that may be susceptible to impact by project construction. The construction monitoring program will involve the installation of gauges within the existing facilities that will be monitored on a regular basis prior to and during construction to identify any vertical or horizontal movements of the facility attributed to construction activities. It is intended that movements will be detected by this program in a timely manner that would ensure that mitigation measures can be implemented to minimize any adverse impacts on the facilities.

11.4 Proposed MBTA Facilities

The MBTA has proposed the construction of a Transitway which would run from the Boylston Street station on the Green Line beneath Tremont Street down Avery Street and Hayward Place the length of the project site. If this alignment is constructed, there will be

a station on this line located on Hayward Place between Washington Street and Harrison Avenue Extension connecting to the Orange Line at the Chinatown station, and with an entrance/exit coming to grade near the corner of Washington Street and Hayward Place.

The MBTA also has an ongoing program to upgrade the emergency ventilation of its existing transit tunnels. The existing emergency exit/ventilation facility located at the Washington Street/Hayward Place corner has been identified as a possible location for such a facility to serve the section of Orange line tunnel adjacent to the project site.

11.5 Project Impacts on Future Facilities

The proposed development of the "Hayward Place" parcel or the Bloomingdale's site has been revised in response to discussions with the MBTA to accommodate the future construction of the Transitway and its Midtown station in Hayward Place. The changes in design include the "pull back" of the proposed garage structure below-grade approximately 12 feet from the existing parcel property line to accommodate the future station construction between Boston Crossing and the existing 600 Washington Street building. An agreement has been reached to include in the project design specific accommodations that will allow the project foundation wall along Hayward Place to be used as a side wall of the Transitway and its Midtown station and to allow the future construction of a station entrance/exit to grade within the project limits on Hayward Place. The details of these accommodations will be developed in close coordination with MBTA representatives as the project proceeds in the design process.

IX. PROPOSED MITIGATION MEASURES

IX. PROPOSED MITIGATION MEASURES

1.0 TRANSPORTATION

The developer of the proposed Boston Crossing project is committed to working with the Boston Transportation Department and with the developers of Commonwealth Center and One Lincoln Street to improve traffic operations and pedestrian amenities in downtown Boston. The proponent is committed to assist in the implementation of the mitigation measures developed to improve traffic operations. The developers of Boston Crossing, Commonwealth Center, and One Lincoln Street have worked together and are in agreement on the proposed mitigation measures. A more detailed mitigation analysis is included in Section 8.0 of the Transportation Component of the FPIR/FEIR.

1.1 Roadway and Intersection Improvements

The analyses presented in Section 5.0 of the Transportation Component identify the intersections operating at deficient levels of service for the existing and revised roadway networks. The intersections at poor levels of service for the future Build condition are as follows:

Intersection	Existing Roadway Network	Revised Roadway Network
Tremont Street/Boylston Street	X	X
Washington Street/Essex Street/Boylston Street	X	X
Harrison Avenue/Kneeland Street	X	X
Chauncy Street/Avenue de Lafayette		X
Surface Artery/Essex Street/Lincoln Street	X	X
Harrison Avenue Extension/Essex Street	X	X
Harrison Avenue/Beach Street	X	
Harrison Avenue Extension/Avenue de Lafayette	X	X
Chauncy Street/Bedford Street/Garage Entrance/Exit	X	X
Kingston Street/Avenue de Lafayette/Essex Street	X	
Kingston Street/Bedford Street	X	X
Kneeland Street/Surface Artery	X	X

As shown, poor levels of service will exist for the future Build conditions with either the existing or the revised roadway network. There are exceptions however; the Harrison Avenue/Beach Street intersection works better under the revised roadway network due to the elimination of cut through traffic using Beach Street. The Kingston Street/Avenue de Lafayette/Essex Street intersection will operate at better levels of service due to the proposed signalization under the revised roadway network. The majority of Boston Crossing generated traffic, a portion of Commonwealth Center generated traffic and traffic redirected by the closure of Beach Street at the Chinatown gate will increase traffic volumes on the Avenue de Lafayette approach causing increased delays at the Chauncy Street/Avenue de Lafayette intersection with the revised roadway network.

Mitigation is required at intersections along the Boylston Street/Essex Street corridor, at the entrances to the site or at other intersections which currently operate at poor levels of service. Intersections within downtown Boston cannot be easily widened to improve operations and increase capacity. Geometric improvements require encroachment on park areas or sidewalk narrowing, both of which are not acceptable in downtown Boston. The other methods of improving traffic operations with existing roadway geometry include parking restrictions and enforcement (as achieved under the Traffic Relief Program (TRP) on Congress Street, Arlington Street and Tremont Street), traffic signal coordination to allow proper progression on the major approaches, the elimination of exclusive pedestrian phases at signalized intersections and incorporation of concurrent pedestrian phasing, and the signalization of those intersections which have minor approaches operating at LOS F.

1.2 Boylston Street/Essex Street Corridor

All intersections along the Boylston Street/Essex Street corridor will operate at poor levels of service for future No-Build and Build conditions. Boylston Street/Essex Street between Arlington Street and Surface Artery will become part of the City of Boston's TRP and be classified as a major trip route. Under the TRP the following actions will be taken:

- No Stopping Zones established along portions of Boylston Street and Essex Street between 7:00 AM and 7:00 PM.

- Parking meters removed where necessary.

- o Taxi Stands relocated as needed.

- o No Stopping Zones established on some intersecting side streets to improve flow and increase capacity.

- o Enforcement of restrictions during the peak periods with Traffic Officers from the Boston Transportation Department (BTD) and cooperation of the Boston Police Department.

Particular problem areas such as the Tremont Street/Boylston Street, the Harrison Avenue Extension/Essex Street and the Kingston Street/Avenue de Lafayette/Essex Street intersection requires mitigation beyond that recommended under the TRP. The designation of Essex Street/Boylston Street as a TRP route will reduce vehicular travel time along this corridor, increase intersection capacity, eliminate vehicular blockage at intersections, eliminate double parking, minimize pedestrian/vehicular conflicts at intersections and provide clear regulatory and street name signing.

Tremont Street/Boylston Street

This intersection will operate at very poor levels of service (LOS F) during the peak periods. Poor operations are caused by a combination of factors at this intersection. Contributing to the poor level of service are high traffic volumes, high pedestrian volumes, an exclusive pedestrian phase during the peak hours, double parking on Boylston Street and the occasional parking on Tremont Street.

A recommended improvement is the restriction of parking along Boylston Street during the peak hours which will allow three lanes of traffic and the reallocation of lane usage. On the Boylston Street approach, the lane configuration includes two through lanes and an exclusive right-turn lane. The Tremont Street approach will be restriped for one exclusive right-turn lane, two through lanes, and an exclusive left-turn lane. An exclusive pedestrian phase will also be maintained at this intersection.

The proposed mitigation at this intersection will improve traffic operations from LOS F for all future Build conditions to LOS D for the AM peak hour and LOS E for the PM peak hour with the existing roadway network, and LOS E during both AM and PM peak hours for the revised roadway network.

Washington Street/Essex Street/Boylston Street

This intersection is projected to operate at poor levels of service for the 1995 Build condition during both the AM and PM peak hours with the existing and revised roadway network.

A new MBTA station is planned on the northeast corner (at 600 Washington Street) of the intersection of Washington Street/Essex Street/Boylston Street. Upon completion of the new station, MBTA stations (exits and entrances) will be located on three corners. Currently, stations exist on the northwest and southeast corners. The additional exit and entrance will help reduce the pedestrian traffic at this intersection. With the subsequent reduction of pedestrian traffic, the elimination of the exclusive pedestrian phase and the provision of a fully-actuated pedestrian phase will improve traffic operations. An actuated pedestrian phase is activated by pedestrian push buttons and therefore only occurs when necessary, and will not be necessary every cycle. Additional green time will, therefore, be available for vehicles at the intersection.

This intersection will be improved by providing TRP measures, traffic signal coordination, and new pavement markings. The mitigation, including coordinated signals, improved signal phasing, the new MBTA station that reduces pedestrian volumes crossing Boylston and Washington Streets, and new pavement markings improves the expected levels of service at the intersection of Washington Street/Essex Street/Boylston Street for the 1995 Build condition during the AM and PM peak hours for the existing and revised roadway networks.

Harrison Avenue Extension/Essex Street

The Harrison Avenue Extension/Essex Street intersection experiences poor levels of service (LOS E or F) for all future No-Build and Build conditions on the Harrison Avenue Extension approach. This intersection requires signalization to allow it to operate at acceptable levels of service for future conditions. The proposed mitigation includes signalization, TRP measures (peak parking restrictions, etc.) and signal coordination on Essex Street. The conceptual layout of this intersection includes one left turn and one through lane on the Harrison Avenue Extension approach and three lanes (one right turn and two through/left turn lanes) on the Essex Street approach.

Analysis of at this intersection indicates that the intersection will operate at acceptable levels of service (LOS C or better) for all future conditions with the proposed mitigation.

Kingston Street/Avenue de Lafayette/Essex Street

For the existing roadway network, the Kingston Street/Avenue de Lafayette/Essex Street intersection requires signalization once all other area development is completed. The two-way Essex Street proposal also requires signalization at this intersection. As it currently exists, this intersection operates at poor levels of service (LOS E or F) for existing, future No-Build and Build conditions. Level of service analysis performed for future conditions with coordinated signals shows an LOS D or better.

Surface Artery/Essex Street/Lincoln Street

Slight improvements in operating conditions at the Surface Artery/Lincoln Street/Essex Street intersection will be achieved for the future No-Build and Build conditions with coordinated signals. To operate at acceptable levels of service, however, requires further mitigation rather than coordination. Representatives of Bruce Campbell & Associates (BC&A) have met with Boston Transportation Department staff and traffic consultants working on the One Lincoln Street and Commonwealth Center projects to discuss the City's plans at this location in connection with the depression of the Central Artery. Methods of improving capacity and allowing the interim improvements to be utilized for future conditions were discussed. Based on these preliminary discussions, BC&A has developed proposed improvements that will allow this intersection to operate at LOS D for the future Build condition.

The Surface Artery/Lincoln Street/Essex Street intersection will operate at LOS D or E for all future No-Build and Build conditions with the proposed mitigation which is more fully discussed in the Transportation Component of the DEIR.

Kneeland Street/Surface Artery

The Kneeland Street/Surface Artery intersection will operate at very poor levels of service during the PM peak hour for No-Build and Build conditions with the existing and revised roadway network. High volumes on the Surface Artery approach in conjunction with the high volumes on the eastbound Kneeland Street left-turn lane contribute to the poor level of service.

A recommended improvement at the intersection is to restripe the eastbound approach to provide a left-turn only lane, a combined left turn - through lane and a right-turn lane and to improve the signal timing and phasing.

During the AM peak hour, this intersection will remain at LOS C with the proposed mitigation for No-Build and Build conditions with the existing and revised roadway networks. During the PM peak, the proposed mitigation will improve traffic operations from LOS E or F to LOS D or E for No-Build and Build conditions with the existing network and from LOS E to LOS D for the No-Build condition and LOS F to LOS E for the Build condition with the revised roadway network.

1.3 Chauncy Street/Bedford Street/Garage Entrance/Exit and Avenue de Lafayette/Harrison Avenue Extension

The intersections of the Lafayette Garage Entrance and Exit with Chauncy Street/Bedford Street and with Avenue de Lafayette /Harrison Avenue Extension will operate at poor levels of service (LOS F) during the PM peak for future Build conditions with no mitigation. The proposed Boston Crossing project will add about 400 new vehicles at each garage entrance/exit. The increase in traffic volumes on these approaches will cause the intersections to fail. Improvements required at these intersections include signalization or dispersion of trips over a greater time period. The dispersion of traffic over longer time periods can be accomplished through staggered work schedules or flex time.

Signalization at the two garage entrance/exit points will improve expected traffic operations. The signals at these locations improve traffic operations to LOS D or better. Traffic operations will be further improved by the dispersion of traffic over a longer period.

1.4 Other Intersections

The other study area intersections that require mitigation include:

- Harrison Avenue/Kneeland Street
- Chauncy Street/Avenue de Lafayette
- Harrison Avenue/Beach Street
- Kingston Street/Bedford Street

Harrison Avenue/Kneeland Street

The Harrison Avenue/Kneeland Street intersection will operate at acceptable levels of service for future No-Build and Build conditions with the continuance of parking restrictions on Kneeland Street and the start of peak hour parking restrictions on the Harrison Avenue approach. Currently parking and occasionally double parking occur within 75 feet of the intersection on Harrison Avenue allowing only one lane of traffic to form at the signal. With peak hour parking restrictions on this approach, two lanes will form. Level of service analyses were performed for No-Build and Build conditions with a two lane approach.

The intersection will operate at acceptable levels of service (LOS B) for all future conditions with peak hour parking restrictions on Harrison Avenue and TRP measures on Kneeland Street.

Chauncy Street/Avenue de Lafayette

The Chauncy Street/Avenue de Lafayette intersection will operate at poor levels of service (LOS E) with the revised roadway network during the AM peak only for the Build condition. This intersection will operate at LOS C or D for all other future conditions. Longer delays will be encountered due to greater volumes on the Avenue de Lafayette approach with the proposed two-way Essex Street. Traffic operations can be upgraded with AM peak hour parking restrictions on the westbound approach. The parking restriction will allow a third lane of traffic to form on this approach for right-turn movements. The peak hour parking restriction will allow this intersection to operate at LOS D even with the added traffic assigned to a widened two-way Essex Street.

Harrison Avenue/Beach Street

Motorists on the Beach Street approach to the Harrison Avenue/Beach Street intersection will experience long delays during the peak hours for all future conditions. High traffic volumes utilize Beach Street as a cut-through route to access Boylston Street via Washington Street, West Street and Tremont Street. The City of Boston is proposing to close Beach Street at the Chinatown gate, eliminating cut-through traffic and allowing movements on the Beach Street approach to operate at acceptable levels of service (LOS E or better) for all future conditions.

Kingston Street/Bedford Street

Signalization is the proposed mitigation at the Kingston Street/Bedford Street intersection. With the proposed mitigation, this intersection will operate at acceptable levels of service (LOS D or better).

1.5 Additional Mitigation Measures

Intersection improvements proposed to increase capacity and improve traffic operations are one method of mitigating project related traffic impacts. Reducing the demand for automobile use and the amount of traffic generated is another effective alternative. The intersection improvements will therefore be more efficiently used if demand reduction strategies are employed. Demand reduction strategies include transit usage, ridesharing or van pooling and flex time.

Transit Use

The proposed Boston Crossing project is positioned in the center of the MBTA subway and trolley lines. Access to three of the four lines (Red, Green and Orange) can be accomplished from the project site. The remaining line (Blue) is easily reached either by the Orange Line or a short walk to State Street. The site is also within one stop on the MBTA's Red line of South Station, currently a multimodal transportation center with commuter rail lines to the south, express buses, and AMTRAK trains. Express buses also board and deboard passengers with destinations west of the City at a bus stop on Otis Street. The availability of these public transportation amenities will increase transit use by patrons of the retail establishments and by employees of the office uses. The use of public transportation is expected to be higher than estimated in the trip generation section of this report making the traffic related impacts less. The proponent will also encourage transit usage through various measures including:

- Upgrading connections to the MBTA at the Hayward Place/Washington Street intersection (Bloomingdale's and the 500 Washington Street tower above Bloomingdale's).

- Maintaining direct connections to the MBTA at the Chauncy Street/Summer Street intersection (Jordan Marsh and the One Summer Street tower above Jordan Marsh).

- Providing on-site locations for sale of MBTA passes and private bus line tickets (currently MBTA passes are sold at the Downtown Crossing Station).

- Encouraging tenants to subsidize a portion of the employees' public transportation costs through a Transportation Management Association.

- Making available commuter rail, bus and commuter bus schedules on site.

- Promotion of public transportation availability in retail advertising and the marketing of office space.

Ridesharing

Ridesharing is another demand reduction measure and encourages commuters to ride with other commuters rather than alone. Common ridesharing programs include car pooling and van pooling. The Boston Crossing proponent will utilize the services of a ridesharing agency, such as CARAVAN, to initiate carpools, vanpools and subscription bus services. CARAVAN also offers assistance to new tenants in solving relocated employees' commute problems. Ridesharing is best accomplished at the company level with a designated administrator overseeing the program. The developer of Boston Crossing will promote the use of a ridesharing agency in marketing the office space.

Ridesharing will also be promoted through parking pricing and supply management strategies. The conservative parking supply/demand analysis indicates there will be a shortage of parking in the project vicinity. Rate structuring will encourage carpooling among employees who drive to the site. Other parking areas will have opening times after the AM peak, also reducing traffic impacts. A pool of spaces will be reserved for carpools, vanpools and subscription buses. With ridesharing measures in place, vehicle occupancies are expected to be higher than used in the trip generation section of the report, reducing the number of new trips into the study area.

Alternative Work Schedules

Alternative work schedules also offer peak hour demand reduction by spreading trips over a longer period. This will reduce demands on the roadway network and transit system. Staggered work hours allow groups of employees to start at differing times, typically 15-minute intervals, over a one or two hour period. Trips will be dispersed over the one or two hour time period rather than having all employees starting at the same time. This program reduces the sharp peaks that occur with office uses.

Flexible work hours allow employees to choose their starting and finishing times. This program provides the same benefits as staggered work hours and will be encouraged by the proponent in marketing the site.

1.6 Delivery Vehicle Facilities

The Boston Crossing project will provide sufficient off-street loading/unloading space for all delivery vehicles, to minimize the amount of on-street loading and unloading activities. Access to the loading area will be from the existing entrance on Chauncy Street and a proposed entrance on Harrison Avenue Extension. Sufficient room for truck maneuvering will be provided internally and no stopping or backing will be necessary on-street to accommodate trucks.

The Boston Crossing proponent will encourage all tenant delivery vehicles (with the exception of courier services) to use off-peak hours, which include all times other than 7:00 AM - 10:00 AM and 3:00 PM - 6:00 PM weekdays and 1:00 PM - 4:00 PM on Saturdays. Other major tenant deliveries (which typically require the moving of furniture, etc.) will be made before 7:00 AM or after 5:00 PM weekdays. Off-street loading/ unloading facilities will be available 24 hours per day by appointment to encourage off-hour deliveries.

Off-street deliveries to the buildings will be prohibited from any location other than the loading dock. No deliveries will be accepted through the main entrances to the buildings. These measures will reduce turnover time of delivery vehicles (a dockmaster will supervise delivery activity) and improve security for delivery services.

Collection boxes for major courier services will be located in areas convenient to the loading dock. Courier services will be required to use the loading dock and drop-offs/pickups will not be accepted at other locations to minimize the impact on street traffic.

1.7 Taxi Traffic

Currently a taxi stand is located on Avenue de Lafayette between Chauncy Street and Harrison Avenue Extension. With this project, One Lincoln Street and Commonwealth Center, it is projected that the demand for taxi service will increase significantly. The developer of Boston Crossing will maintain a taxi stand on this block and will work with the City to provide another taxi stand waiting area if needed at a mutually agreed upon location, most likely on Washington Street near Commonwealth Center.

Taxi drop-offs would occur at any of several building entrances around the site, but primarily on Washington Street, Chauncy Street and Avenue de Lafayette.

1.8 Transportation Management

Several other projects may be under construction and/or leasing over the same time period as the proposed Boston Crossing Project. The developers of Boston Crossing, One Lincoln Street, and Commonwealth Center have formed a Midtown Developers Transportation Management Association and will work with other developers to integrate transportation planning. Joint meetings have been held to discuss issues of common concern and this effort will be ongoing to resolve transportation issues within the City as they arise. The Boston Crossing proponent will work with the City and the Downtown Crossing Association as appropriate.

The MDTMA has been formed to address transportation-related issues with regards to the development and operation of the three projects. One goal of the MDTMA will be to ensure that the vitality of the Midtown and Downtown Crossing area is preserved and enhanced throughout the construction of the three projects. Another goal of the MDTMA is to work with the Boston Transportation Department to develop appropriate Commuter Mobility Programs (CMPs). Such programs will include a transportation coordinator for the three projects, a ride-sharing database, and car and vanpooling. Truck routes, staging, and the encouragement of car and vanpooling among the trade unions for the three projects will be coordinated through the MDTMA.

The MDTMA will work towards implementing appropriate Transportation Demand Strategies (TDS's) that reduce the number of single-occupancy vehicles traveling through the area during peak traffic periods. Strategies will include selling T-passes and tokens, coordinating an alternate work-hour program for employers in the project, and developing a commuter center with an on-site commuter ride-matching system.

2.0 WIND

The seasonal analysis of the proposed Boston Crossing project shows that the most probable high-speed winds will occur during the fall and winter months. The design tested in the DPIR and DEIR recorded three locations on the annual basis and seven locations on the seasonal basis exceeding the BRA's 31 miles per hour (mph) one percent gust velocity guideline. With the project's amended design, as described in the FPIR/FEIR, wind levels have been effectively mitigated. As a result of the new design, annual wind speeds no longer exceed the BRA's 31 mph guidelines, while the guideline is barely exceeded twice on a seasonal basis.

The amended design of the Boston Crossing project and the redesign of the Commonwealth Center have resulted in a more comfortable wind environment. No further mitigation measures are necessary for the Boston Crossing project.

3.0 SHADOWS

The shadow analysis for the Boston Crossing project began in the earliest phases of project design in early 1988. Continuing and revised computer analyses of massing alternatives for the site were useful in the design process and were a part of the selection of slender towers that are set back to the maximum extent to the eastern edges of the site. As a consequence of this choice, the project minimizes shadow effects on the Boston Common; it does not impose new shadow on Washington Street except where a new building fills the long-vacant Hayward Place site; and new shadow on the Downtown Crossing pedestrian zone is limited to a very small area. Through the adoption of a resolution on June 29, 1989, regarding the proposed project, the BRA found that the project complied with the shadow criteria contained in Section 38-16.1 (the Midtown Cultural District Zoning). The resolution required that the FPIR/FEIR contain documentation that the area of the Boston Common shaded beyond the two-hour limit described in Section 38-16.1 of the Boston Zoning Code not exceed one acre for the class of projects described in Section 38-16.1.

As a result of design modifications such as shifting three floors from the southern office component to the northern office component and reducing the floor plates of the southern tower, the proposed Boston Crossing project, together with the proposed Commonwealth Center project, conform to the shadow criteria of Section 38-16.1.

4.0 DAYLIGHT

In general, the weighted average daylight obstruction from the five vantage points increases by about 13 percent over existing conditions with the proposed building configuration. On the streets most travelled by pedestrians, to the northwest and northeast, obstruction will increase 10 to 15 percent. As a result of mitigation measures such as building setbacks, the proposed alternative results in slightly less daylight obstruction than the as-of-right alternative. Breaks in the street wall, on the opposite side of Washington, Chauncy, and Summer Streets, result in low daylight obstruction across those streets. These breaks in the street wall increase sky exposure and allow more sunlight to reach the street level.

5.0 SOLID AND HAZARDOUS WASTES

The types of compounds detected at the site are generally consistent with the types and concentrations of compounds found in soil and groundwater samples collected from urban sites. Based on the chemical analyses and explorations completed to date, it is not anticipated that the Department of Environmental Protection will require remedial action at the site. It is anticipated that the types and concentrations of the compounds detected at the site do not constitute a present or potential threat to human health, safety or welfare, or to the environment if retained at the site. More detailed information concerning waste is included in Section 3.0 of the Environmental Component.

Boston Crossing will participate in waste reduction and waste recycling programs operating in the Boston region when the project opens. For example, waste paper may be separated, baled, and picked up every day or every other day by recyclers. Metal refuse may be held for metal dealers and only the remaining garbage would be compacted and removed by independent contractors.

6.0 NOISE

The analysis of post-construction noise showed that the noise increases due to increased traffic volume will not noticeably differ from existing noise levels, which are typical of a downtown urban area, and, therefore, no mitigation is necessary. The mechanical equipment for the Boston Crossing project is anticipated to be sufficiently physically and structurally separated from building occupants, exterior open spaces, and pedestrians. Location and design of mechanical rooms will serve to mitigate potential noise impacts associated with HVAC equipment.

7.0 GEOTECHNICAL AND GROUNDWATER

Provisions are being incorporated into the design and construction procedures to limit potential adverse impacts to adjacent structures, and therefore, the impact to adjacent structures is anticipated to be minimal. The following measures will also be taken:

- The design team will conduct studies, prepare specifications, and review contractor's submittals for conformance to the project contract documents.

- All contractor designs and procedures will be reviewed by the project design team prior to implementation.

- Performance criteria will be established for the lateral earth support system with respect to movements, and the construction sequence of the below-grade structures will be controlled by specific requirements in the project specifications. The contractor will be required to modify his methods and take all necessary steps during the work to protect nearby buildings and structures.

- Geotechnical instrumentation will be installed and monitored to observe the performance of the excavation, adjacent buildings and structures, and area groundwater levels and to identify the development of any adverse conditions.

- The design team will provide full-time on-site monitoring of the contractor's activities and monitoring of geotechnical instrumentation during the below-grade portion of the work. This will provide for monitoring of the contractor's compliance with project specifications, and will facilitate identification and correction of any on-site problems.

- As part of the contractor's submittal, the contractor will be required to submit contingency plans for remedial measures in the event that unacceptable performance occurs. These measures will also be reviewed by the design team prior to construction.

Construction techniques and procedures will be chosen and undertaken to control associated ground movements. As part of these procedures, a monitoring program will be established to measure ground and structure movements in the area of excavation. In addition, prior to the start of construction, a pre-condition survey of adjacent buildings and structures will be conducted in order to establish a reference baseline. Conformance with wall performance criteria will ensure that adjacent structures and buildings will not be damaged. There are numerous procedures that can be implemented if wall performance is unacceptable. These include, but are not limited to:

- Use of additional temporary internal supports (rakers or struts);

- External support (tiebacks);

- Modified excavation procedures whereby the excavation below the lowest installed brace is reduced; and

- More rapid installation of wall support members in conjunction with a modified excavation sequence.

Planned construction procedures to protect adjacent structures will also limit any potential adverse impacts on the adjacent utility lines. Special consideration will be given to utility facilities which are identified by the appropriate agency as being especially sensitive to adverse impact by movement such as steam lines, older water and gas mains, and some older types of telecommunications facilities.

The construction of the additional levels above Lafayette Place and the Jordan Marsh northwest addition, and construction of the One Summer Street tower will not require groundwater lowering. Therefore, the construction of these structures will not impact area groundwater levels.

The construction of the Bloomingdale's garage will require limited construction dewatering to facilitate excavation in-the-dry within the diaphragm wall. However, this dewatering within the diaphragm wall should not adversely impact area groundwater levels. The diaphragm wall will be designed and constructed to provide a groundwater seepage cutoff, with it extending into bedrock below the lowest excavation level. In addition, the use of the floor slabs as internal braces does not require wall penetrations that might allow groundwater seepage.

Area groundwater levels will be monitored throughout construction, and if any adverse effects are observed, remedial action will be taken and construction methods will be changed to mitigate further construction-related impacts on groundwater levels. Groundwater levels will be maintained within the range of pre-construction levels in order to minimize potential impact to adjacent structures. Therefore, groundwater seepage into the site should be minimal, and the corresponding impact to area groundwater levels should be negligible.

8.0 CONSTRUCTION IMPACTS

A Traffic Maintenance Plan in compliance with the City's Construction Management Program will be submitted to the Boston Transportation Department for approval prior to the actual start of construction.

The construction truck routes proposed utilize major thoroughfares rather than neighborhood streets, particularly avoiding Chinatown streets. Enforcement of truck routes will be accomplished through clauses in the contractors' and subcontractors' agreements. Limiting the impacts of construction traffic and truck noise on the adjacent neighborhoods was the most important factor in determining truck routes.

The staging for each area of development will be located to ensure safe and efficient construction with a minimum disruption to the existing tenants, pedestrians, and automobile traffic in the area. The proposed staging plan is designed to isolate construction while providing safe access for pedestrians and automobiles during normal day-to-day activity and emergencies. Particular attention was given to Washington and Summer Streets due to their pedestrian character.

In order to ensure the public safety, detail officers on assignment in the construction zone will be responsible for maintening a safe and orderly flow of vehicles and pedestrians.

In addition, representatives of the Boston Crossing, Commonwealth Center, and One Lincoln Street projects have formed a Midtown Developers Transportation Management Association and will meet on a regular basis to coordinate construction activities in order to minimize the combined impacts wherever possible.

9.0 AIR QUALITY

Predicted concentrations represent the highest concentrations that could potentially exist during the simultaneous occurance of worst case meteorology and peak traffic. Typical pollution levels are expected to be lower than these worst case values. Using these worst case conditions no exceedances of the one hour standard (35 ppm) were predicted. The analysis did demonstrate that exceedances may exist for the eight-hour standard (9 ppm) at three intersections. The mitigation measures, as well as the City of Boston's current process of optimizing traffic flow, with computer driven signal timings, will serve to reduce CO background levels in the project area.

The Commonwealth's I&M program started on April 1, 1983 and has been assumed in the calculation of motor vehicle emission rates. This program, which results in the overall reduction of yearly motor vehicle emissions, was established to ensure compliance with the NAAQS, on a statewide basis, as outlined in the Massachusetts State Implementation Plan. The attainment and maintenance of the NAAQS for CO in the future is dependent on the continued enforcement of this program.

Other traffic-related mitigation measures to reduce vehicle delays could similarly improve air quality. In general, such traffic-related measures include roadway geometry changes which increase roadway capacities and signal timing optimization which enhances close up traffic flow.

Currently, the City of Boston is in the process of optimizing, through computer operated traffic flow monitors, approximately 250 signals downtown, including the project study area. Completion of this program is expected in 1990. Computer-driven signal timings, which will be based on demand, will improve traffic flow over peak one- and eight-hour periods in the project area. During eight-hour periods, when the only violations of the NAAQS for CO were predicted, continual monitoring of traffic conditions and

appropriate adjustments to signal timings under this program will provide significant potential air quality benefits. In addition, this program will serve to reduce CO background levels as general flow in the downtown area will improve.

Measures to mitigate traffic problems at intersections presented in the Traffic Section of this report were examined for air quality effects.

Boylston Street/Essex Street between Arlington Street and Surface Artery will become part of the City of Boston's Traffic Relief Program (TRP) and be classified as a major trip route. Under the TRP the following actions will be taken:

- No Stopping Zones established along portions of Boylston Street and Essex Street between 7:00 AM and 7:00 PM.

- Parking meters removed where necessary.

- Taxi Stands relocated as needed.

- No Stopping Zones established on some intersecting side streets to improve flow and increase capacity.

- Enforcement of restrictions during the peak periods with Traffic Officers from the Boston Transportation Department (BTD) and cooperation of the Boston Police Department.

These measures, in addition to the traffic signal coordination, should improve traffic flow along Boylston Street/Essex Street, and improve air quality in the area.

Signal timing adjustments at the Washington/Boylston/Essex Street intersection and the Essex/Lincoln/Surface Artery intersection were considered in order to mitigate exceedances of the eight-hour NAAQS of 9.0 ppm. Traffic signal times used in this air quality analysis were those determined in the transportation analysis for the peak one-hour period. Due to lower eight-hour traffic volumes and some variation between the capacity algorithms of the transportation and air quality computer models, signal timings of the peak one-hour period may not always be the optimal for the eight-hour period. In addition, air quality analyses examine the effect of traffic at specific "sensitive receptors" near an intersection; therefore, at times it may be beneficial to favor the traffic at the approach or receptor that has the greatest air quality impact.

With Build conditions at the Washington/Boylston/Essex Street intersection, shifting ten seconds of the 98 second cycle from Boylston Street to Washington Street with both the existing and revised roadway network, demonstrates an improvement of worst-case CO levels. With the ten second shift in the signal time, the eight-hour results with garage impacts are as follows:

	EXISTING NETWORK			REVISED NETWORK		
Receptor	No-Build	Build	Build With Mitigation	No-Build	Build	Build With Mitigation
T Entrance 1	8.6	8.9	8.7	8.7	9.0	8.6
China Trade Ctr.	5.5	5.6	5.9	5.4	5.6	5.7
T Entrance 2	6.4	7.4	7.0	6.5	7.0	6.6
Vacant Building	5.9	6.7	6.0	6.0	6.3	6.0
Liberty Tree Park	7.4	7.4	8.1	6.8	7.2	8.0

With adjustment of the signal at this intersection there is no exceedence of the 9.0 ppm eight-hour NAAQS for CO with construction of the project. In addition, under the revised network conditions, the adjusted signal timing demonstrates an improvement over the No-Build conditions.

Signal timing adjustments were examined at the Essex/Lincoln/Surface Artery intersection in order to determine possible improvements to air quality at sensitive receptors at this intersection. For the Build with existing roadway network case 11 seconds were taken from Essex Street, three seconds given to the Surface Artery, and eight seconds given to Lincoln Street. For the Build with revised roadway network, 10 seconds were transferred from Essex Street green time to Lincoln Street. Results with garage impact are as follows:

	EXISTING NETWORK			REVISED NETWORK		
Receptor	No-Build	Build	Build With Mitigation	No-Build	Build	Build With Mitigation
Office Furniture Store	7.0	7.2	6.7	7.2	7.7	7.2
Retail Shop	10.1	10.7	10.1	10.3	10.7	10.3
125 Summer Street	8.5	9.0	8.7	8.4	8.9	8.7
Kingston/Bedford Project Corner	6.5	6.7	7.1	6.6	6.9	6.8

In both the existing network case and the revised network, the predicted maximum impact at the Retail Shop receptor - the only receptor exceeding the 9.0 ppm NAAQS with mitigation - is the same as in the No-Build cases.

The developer of Boston Crossing has committed to work with the City of Boston and the developers of Commonwealth Center and One Lincoln Street to aid in the implementation of measures designed to improve traffic flow and air quality.

10.0 RODENT CONTROL

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection, monitoring, and treatment will be carried out before, during, and at the completion of all foundation work for the proposed project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the project area, including alleyways, surrounding building exteriors, and building interiors. During the construction process, regular service visits will be made in order to maintain effective rodent control levels.

11.0 HISTORIC RESOURCES/ARCHAEOLOGY

Because there are no historic buildings on the site of the proposed Boston Crossing project, and the project is not located within a historic district, the analysis of project impacts upon area historic resources focused on potential effects of the proposed building upon districts and buildings within the study area identified in the Scoping Determination.

The proposed project is located on a site where there is now a department store, retail mall, hotel, and parking lot, and will not directly alter or isolate from its surrounding environment any historic buildings or districts described. The project has been designed with the consideration of the historic character of buildings in the five nearby historic districts. The architects will continue to review the plans with the BRA and the BLC in order to ensure appropriateness of design.

Design compatibility of the proposed project was examined in terms of the project's contextual relationship to the historic buildings in the surrounding area. Elements of compatibility considered in the design of the project include the overall scale and massing, cornice lines, tower heights, materials and texture, and detailing.

As a result of a series of design review meetings and considerable effort by the design team, a more fully developed design for the South Tower has been completed. This design reflects the smaller floorplate and lower height that were agreed to at the BRA Board hearing. In addition, the new design approach emphasizes an image of two slim masonry towers with a vertical glassy connecting element - all of which serve to break down the apparent scale of the tower. Efforts by the design team to coordinate with revised designs for the Commonwealth Center towers have also continued.

Considerable design effort has also been focused on the relationship of the Boston Crossing project to the Opera House itself - maintaining critical view corridors and respecting its historic importance in the district. An east-west walkway through Bloomingdale's has been named Opera Way and provides views of the Opera House from the interior of the project. To accomplish this, Opera Way has been reconfigured as a two-story arcade with a three-story glass entrance area on Washington Street to allow for expanded viewing of the Opera House Facade.

MHC also requested that more detailed design efforts seek out opportunities for additional variety in the Washington Street facde. This has been accomplished through projecting bay windows with awnings, multiple retail entries, and diverse materials. Above the fifth floor, towers are deeply set back from Washington Street to respect the historic character of the Washington Street commercial corridor.

As requested by the MHC, the Boston Crossing team will continue to work with members of the MHC staff to review design changes, development of design details, and opportunities to improve the project's compatibility with its historic setting.

In addition, the project proponent will work with the city Archaeologist to identify any areas slated for excavation that contain previously undisturbed soils and to work out an excavation plan for any such areas identified.

12.0 INFRASTRUCTURE

The impacts of the proposed project on the following infrastructure systems have been addressed in detail in the Infrastructure Systems Component:

- Water Distribution
- Wastewater Disposal
- Storm Drainage
- Electric Service
- Steam Service
- Natural Gas Service
- Telecommunications
- MBTA Facilities

The following subsections are the proposed mitigation measures for each of the infrastructure systems listed above.

Water Distribution Systems

The proposed project will meet all code requirements for installation of low flow equipment to conserve water use. In addition, Boston Crossing plans to use its water resources as effectively as possible and will evaluate various operational approaches to achieve this goal.

To allow the project to be serviced entirely from the SLS system for domestic water, the proponent is reviewing the planned extension of the 12" SLS water line within the Boston Crossing project with the Boston Water and Sewer Commission. The 12-inch Southern High Service (SHS) and 16-inch High Pressure Fire Service (HPFS) water mains proposed to be located in Harrison Avenue Extension and Hayward Place are required to allow the existing lines located within the proposed project limits in Avenue de Lafayette to be discontinued and will also be implemented by the developer.

The design and construction of all proposed service connections and system modifications will be performed to the standards of the BWSC and will be subject to their review and approval. Existing water connections and service to the area will be maintained during construction of the new facilities. If interruptions are necessary due to construction activities, they will be scheduled so as to minimize impacts in the service area.

Modification to the existing water systems required to accommodate the development of the proposed Bloomingdale's site have been identified by studies of as-built documentation, field investigations, and through discussions with utility company representatives. The modifications are summarized below.

- Abandon and remove existing 16" High Pressure Fire Service (HPFS) water main in Avenue de Lafayette.

- Abandon and remove existing 12" Southern High Service (SHS) water main in Avenue de Lafayette.

- Install new 16" HPFS water main in Washington Street/Hayward Place/Harrison Avenue Extension.

- Install new 12" SHS water main in Hayward Place/Harrison Avenue Extension.

- Abandon existing 10" SHS water main in Hayward Place/Harrison Avenue Extension

Wastewater Disposal and Storm Drain Systems

There are several ways that the impacts of new sewage generation can be mitigated for this project. The proposed development will have separate storm drainage and sanitary sewer collection systems within the site, with separate service connections to the systems in the adjoining streets. The development site collection systems will be designed to apportion the site sanitary and storm flows to the sewer routes in a manner that maximizes the efficiency of each system. All sanitary sewer routing options will direct project wastewater to the ESI. All existing sewer systems being planned for reconstruction within the immediate project area will allow for the separation of storm flows from this area that presently discharge to combined systems.

All restaurants located within the project will have grease traps located on their sanitary discharge systems, which will be designed, built and maintained to BWSC standards.

The design and construction of all proposed service connections and system modifications will be peformed to the standards of the BWSC and will be subject to their review and approval. Existing sewer connections and service to the area will be maintained during construction of the new facilities. If interruptions are necessary due to construction activities, they will be scheduled so as to minimize impacts in the service area.

Modifications to existing storm drain and sewer systems required to accommodate the development of the proposed Bloomingdale's site have been identified by studies of as-built documentation, field investigations, and through discussions with utility company representatives. The modifications are summarized below.

- o Abandon and remove existing storm drain in Avenue de Lafayette.
- o Abandon and remove existing sanitary sewer in Avenue de Lafayette.

A separate storm drain system to service the project site is presently being evaluated in conjunction with the BWSC. If it is found that this system is feasible, its implementation will allow the project to exceed the MWRA's expressed I/I goal. In addition, the project is incorporating in its design low flow water usage systems that will minimize the amount of water demand and sewage generated from the project.

Electric Service

In an August 29, 1989 letter from the Boston Edison Company, Boston Edison has stated that the existing Boston Edison Company distribution system is capable of supplying electricity to the project.

New service to proposed facilities will be supplied by the construction of additional electric transformer vaults on site to create adequate capacity to meet the new loading requirements. Modifications to on-site facilities will be closely coordinated with the overall project construction schedule to minimize impacts on existing services to remain. Details of proposed modifications and implementation schedules will be coordinated throughout design and construction with Boston Edison (BECO). Costs of any modifications required to either the BECO system or on-site systems will be borne by the developer either through direct implementation of the modification or through anticipated revenues accruing to BECO by the new development with no costs to other customers. Following is a list of modifications to electricity systems required to accommodate the proposed development of the Bloomingdale's site.

- o Relocate 1-13.8 kilovolt (kV) line in existing conduit in Avenue de Lafayette.

- o Abandon and remove the southerly of two duct and manhole (MH) systems in Avenue de Lafayette.

- o Breakout and support the northerly of two conduit and MH systems in Avenue de Lafayette.

- o Install permanent conduit and electric rooms in Avenue de Lafayette alignment within the proposed building mechanical level and in Washington Street.

- o Breakout support and reconstruct conduit and MH system in Harrison Avenue Extension alignment within the proposed building mechanical level.

- o Abandon and remove Secondary Network Vault (SNV) electric vault in Harrison Avenue Extension.

Efforts to conserve energy will lead to reduced site needs. Compliance wth new State Building Code requirements for such items as lighting and insulation are expected to minimize new loads significantly. Demand limiting approaches such as ice storage for air conditioning are also being evaluated.

Steam Service

Discussions with BTEC staff confirmed in their letter of August 29, 1989 indicate that the existing steam distribution system within the project area has adequate capacity to meet the needs of this and other anticipated projects without impacting BTEC's ability to service existing users. Services to the project site may require modifications to meet projected loads but any modifications to the steam system in streets directly adjacent to the project are within areas presently scheduled for disruption by modifications to BWSC water mains. Details for this construction, if required, will be developed in close coordination with other site activities to minimize the impact on adjacent traffic operations.

Natural Gas Service

Based on the current energy use strategy, the existing supply system is expected to be adequate. Therefore, only site service connection improvements will be required. Modifications to the gas system will be incorporated into the general build-out schedule of the proposed project to minimize any adverse impacts on existing users and on adjacent streets. Costs of modifications to the gas system will be borne either by the developer or indirectly by the development through anticipated increases in Boston Gas revenue. The abandonment and removal of a segment of an abandoned 6" line in Harrison Avenue Extension is required to accommodate the proposed construction of the Bloomingdale's site.

Telecommunications

It is anticipated that new distribution capacity will be required in the telecommunications system adjacent to the site to meet the needs of the proposed development. This will require the installation of new cabling between the NET Harrison CO and/or Franklin CO and the site. Construction of this system will be coordinated with the proposed site development schedule and other infrastructure improvements to minimize adverse impacts on adjacent roadways and to maintain adequate facilities for existing customers. Additional distribution systems on-site will be constructed during development to meet the needs of the new facilities.

New England Telephone has distribution facilities located in Avenue de Lafayette, Washington Street, Harrison Avenue Extension, and Hayward Place which potentially will be impacted to varying degrees by the proposed Bloomingdale's construction. Following is a list of the required modifications to accommodate the development of the proposed Bloomingdale's site.

- Install permanent conduit and telephone room in the first Lafayette Place garage level and in Avenue de Lafayette and Washington Street.

- Cut over New England Telephone (NET) facilities.

- Abandon and remove duct and MH system in Avenue de Lafayette.

All work on the telecommunications system will be performed to NET standards and will be subject to their review and approval. Costs of on-site system modifications will be borne by the developer.

Additional Modifications

Following is a list of the additional modifications to existing utility systems required to accommodate the development of the proposed Bloomingdale's site.

- Relocate Boston Transportation Department (BTD) signal interconnection cable in Avenue de Lafayette.

- Remove BTD traffic signal at the Washington Street/Avenue de Lafayette intersection.

- Modify BTD traffic signal at the Washington Street/Hayward Place intersection.

- Abandon and remove existing City of Boston street light system on Washington Street, Hayward Place, Harrison Avenue Extension, and Avenue de Lafayette and construct a new system around the site.

- Remove and replace a segment of Western Union Co. conduit in Harrison Avenue Extension.

MBTA Facilities

Due to the proximity of the proposed project construction to the existing MBTA facilities, the development will implement extensive pre-construction condition and construction monitoring surveys of all adjacent MBTA facilities to ensure that construction activities required to develop the site do not adversely impact the MBTA facilities. The pre-construction condition survey will include all facilities within the projected impact limits of the project site and will be performed in conjunction with MBTA representatives and to MBTA standards. The survey will accommodate the identification of pre-existing faults in these facilities as well as confirming any "special

case" areas that may be susceptible to impact by project construction. The construction monitoring program will involve the installation of gauges within the existing facilities that will be monitored on a regular basis prior to and during construction to identify any vertical or horizontal movements of the facility attributed to construction activities. It is intended that movements will be detected by this program in a timely manner that would ensure that mitigation measures can be implemented to minimize any adverse impacts on the facilities.

Access to and egress from the adjacent MBTA facilities will be maintained and protected at all times during the construction of the project. A proactive monitoring system will be established within the MBTA Orange Line and Red Line tunnels to determine if sewer related construction activities are impacting these facilities and action will be taken as warranted to correct any problems.

X. RESPONSE TO COMMENTS

X. RESPONSE TO COMMENTS

The following sections provide responses to the Preliminary Adequacy Determination issued by the Boston Redevelopment Authority, the MEPA Certificate of the Secretary of Environmental Affairs on the Draft Environmental Impact Report and the comments received by MEPA and the BRA. Following is a list of agencies or organizations which submitted letters concerning the DPIR and DEIR:

1) Boston Redevelopment Authority
2) The Executive Office of Environmental Affairs
3) Massachusetts Bay Transit Authority
4) Metropolitan Area Planning Council
5) The Executive Office of Transportation and Construction
6) Tremont-on-the-Common
7) Massachusetts Historical Commission
8) Department of Environmental Protection, Division of Air Quality Control
9) U.S. Department of Transportation
10) Massachusetts Water Resources Authority
11) City of Boston, The Environment Department
12) Boston Water and Sewer Commission
13) Conservation Law Foundation
14 + 15) Boston Society of Architects
16) Bulfinch Development Corporation
17) Boston Greenspace Alliance

1.0 RESPONSE TO PRELIMINARY ADEQUACY DETERMINATION

Letter from: Pamela Wessling

Dated: September 21, 1989

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

September 21, 1989

(1)

Mr. Lenard B. McQuarrie
Campeau Corporation
One Avenue de Lafayette
Boston, MA 02111

Dear Mr. McQuarrie:

Re: Boston Crossing

This letter is the Preliminary Adequacy Determination (the "Determination") of the Boston Redevelopment Authority (the "BRA") with respect to the Draft Project Impact Report (the "DPIR") for your proposed Boston Crossing project (the "Project"), which you submitted to the BRA on May 12, 1989.

The BRA is issuing this Determination pursuant to Section 31-5 of the Boston Zoning Code (the "Code").

PREAMBLE

The BRA is reviewing the Project pursuant to multiple sections of the Code. The Project is subject to BRA review and approval pursuant to Article 31 of the Code, Development Review Requirements, which sets out a comprehensive procedure for project review, and requires the BRA to review the design, transportation, environmental, and other impacts of proposed projects. Article 31 requires the submission of a satisfactory Final Project Impact Report ("FPIR") prior to the issuance of a building permit.

The Project as originally proposed by the Applicant and scoped by the BRA contained 3,365,000 GSF. The retail components consisted of approximately 1,425,000 GSF and the office component consisted

Boston Redevelopment Authority is an Equal Opportunity/Affirmative Action Employer · Equal Housing Opportunity

of a 729,000 GSF, 400-foot tower at the northern end of the site on the Jordan Marsh Store and a 720,500 GSF, 437-foot at the southern end of the site over Bloomingdales's.

During the review of the environmental impacts of this scheme as studied in the DPIR changes were made to the project to minimize its shadow impact on the Boston Common. Because the northern office component is on the eastern portion of the Jordan Marsh site and further away from Washington Street and the Boston Common, its height resulted in less shadow on Boston Common than the height of the southern office component which is closer to Washington Street. Therefore, three floors were shifted from the southern component and redistributed to the base and shaft of the northern office component. The floorplates of the southern tower were also reduced, resulting in a slimmer tower and thus reducing shadow impacts even further. As a result, the southern tower is now 406 feet in height and 609,408 GSF and the northern tower is 478 feet in height and 840,592 GSF. A single building within a Planned Development Area (PDA) of more than three acres within PDA-II may have a height substantially in accord with a maximum of 465 feet provided that certain environmental and design criteria are met.

On June 29, 1989, the BRA Board approved the Development and Development Impact Project Plan for the Project. Exceptions from Article 38 and Conditional Use permits were recommended to the Board of Appeal. However, approval was granted subject to the incorporation of mitigation measures in the final plans. Therefore, this Preliminary Adequacy Determination requests information necessary to determine such measures.

I. THE MIDTOWN CULTURAL DISTRICT PLAN AND ARTICLE 38 OF THE CODE

On January 12, 1989, the BRA adopted the Midtown Cultural District Plan (the "Plan") as the portion of the general plan for the city governing the Midtown Cultural District. On March 6, 1989, the Boston Zoning Commission amended the Code to incorporate Article 38. Article 38 of the Code establishes the zoning regulations which are the legal framework for the realization of the Plan. Pursuant to Article 38, the Proposed Project is located within the Midtown Cultural District.

The Midtown Cultural District Plan was developed to guide the reemergence of Midtown Boston as a center of commerce, culture, and city life. The program that emerged from the community-based planning process calls for the creation of a mixed-use downtown

planning process calls for the creation of a mixed-use downtown community which will link the Back Bay and Financial District office markets and reconnect downtown's residential neighborhoods with each other and with the Boston Common and Public Garden.

The primary purposes of the new zoning plan are:

- To direct the downtown economy in a way that promotes balanced growth for Boston, by preventing overdevelopment of the Financial District and Back Bay commercial areas;
- To revitalize Midtown as the region's center for the performing arts, by creating new cultural facilities and rehabilitating existing theaters;
- To protect and provide for expansion of the thriving Chinatown neighborhood, by creating affordable housing, by controlling institutional expansion and by providing neighborhood business opportunities;
- To preserve the historic resources of the district by giving legal protection to more than 100 historic buildings; and
- To create a new residential neighborhood downtown.

Planned Development Areas

Article 38 establishes areas in which PDAs are permitted in order to encourage large-scale private development on underutilized sites, while insuring quality design through strict design guidelines and environmental impact standards.

Developments within PDAs are required to provide benefits, such as cultural and community facilities, historic restoration, or affordable housing, so as to realize the goals of the Midtown Cultural District Plan.

Pursuant to Section 38-10 of the Code, the Project is located within an area in which the establishment of PDAs is permitted in the Midtown Cultural District. Specifically, the Project is located in PDA-II which has a maximum building height range of 155 to 400 feet and FARs of 10 to 14. As noted, Article 38 was subsequently amended, however, to allow that in any PDA that exceeds three acres within PDA-II a single building could have a height in substantial accord with 465 feet, if certain design and environmental criteria were met.

Public Benefits in Planned Development Areas

Projects in PDAs must provide benefits sufficient to outweigh burdens in one or more of the following ways:

(a) the construction of a theater or other cultural facility;
(b) the rehabilitation of certain identified landmarks and theaters; or
(c) the provision of affordable housing.

Theaters or Cultural Facilities

The core of the Midtown Cultural District Plan is the creation of a new center for culture and performing arts. Boston's non-profit arts community and the Office of Arts and Humanities has developed a facilities plan to meet the needs of existing arts groups for affordable space. Accordingly, the Midtown Cultural District Plan calls for the creation of nine different performing arts facilities.

Through the adoption of a Resolution regarding the Project dated June 29, 1989, the BRA Board has resolved that the Project meets the objective of the Plan to create facilities, as noted above, in accordance with Section 38-14.1, Development Plan Approval for Development of a New Theater or Other Cultural Facility. Specifically, as a part of Development Plan approval, the Applicant has agreed to create two 199-seat black box theatres to be located either within the project or in a building in the Ladder Block area of the Midtown Cultural District. However, the BRA requires satisfactory assurances that the theaters can be built prior to execution of the Sale and Construction Agreement. An executed Cultural Facilities Agreement with the Boston Cultural Corporation (the "BCC") will satisfy this requirement. In accordance with BRA policy, the use of these facilities must be made available for intended uses (i.e. the maintenance, encouragement, advancement, and making accessible of the arts, culture, and arts education and necessary uses supportive thereof) for groups other than those affiliated with the BCC when there are no scheduling conflicts with the BCC, as established by the BCC. The commitments set forth in this section must be memorialized in a Cultural Facilities Agreement with the BCC.

Housing and Jobs Linkage

The Midtown Cultural District Plan envisions the targeting of housing and jobs linkage monies from Midtown developments to benefit Chinatown. Such funds would be used by Chinatown community groups to design and build new housing in the neighborhood and to create approximately 1,000 job training

slots.

Projected office developments in the Midtown Cultural District are expected to generate about $25 million in housing linkage funds. These funds will help finance the construction of 500 units of affordable housing in Chinatown and at least 150 units of affordable housing on the Hinge Block, which are projects included in the Chinatown Housing Initiative Program ("CHIP"). The CHIP addresses the neighborhood's overwhelming need for affordable housing. There are five parcels of land owned by the City on which the 500 units of housing will be built: Parcel R3/R3A, Parcel R-1, Parcel P-2, Parcels P-3, P-4, P-4A, and Parcel P-12.

The Project's housing linkage contribution will be used to further the housing goals of Chinatown as expressed in the Midtown Cultural District Plan. The Applicant has agreed to provide linkage assistance for the development of Parcels A, B, and C, through the Housing Creation process provided for in Article 26A of the Code.

The Midtown Cultural District Plan also includes programs and policies ensuring that members of the Chinatown community have access to the approximately 8,500 construction jobs and 15,000 permanent jobs which will be created in the district.

Since Chinatown is directly affected by major developments planned for the Midtown Cultural District, job training slots created by jobs linkage funds from Midtown developments will be made available to Chinatown residents. The Plan requires that developers create job training programs that will prepare Chinatown/South Cove residents for jobs at Midtown project sites.

The Applicant has agreed to work with the Neighborhood Jobs Trust in determining how the jobs linkage contribution for the Project will be used to further the objective of the Plan to train neighborhood residents for both the construction and permanent job opportunities created by Midtown development. Specifically, at this time the Applicant has proposed the following programs to further the Midtown Cultural District policies: a Retail Jobs Academy to train retail workers, a women in the Building Trades pre-apprenticeship construction training program, and an English as a Second Language program. As previously stated, the Applicant has agreed to work with the Neighborhood Jobs Trust in further refining this jobs training package. The providers chosen to provide these services must be chosen from a group of downtown and neighborhood service providers, to be approved by the Neighborhood Jobs Trust and also in the case of Jobs Creation, by the Director of the Mayor's Office of Jobs and

Community Services.

In addition to the foregoing, the Applicant has agreed to participate in the Boston for Boston program and the Boston Residents Construction Employment Plan.

Daycare Facilities

The future economy of the Midtown Cultural District will depend, to a large extent, on the ability of its employers to attract and retain qualified workers, and the provision of daycare facilities is an important benefit for employees. Article 38 requires that a Proposed Project which is greater than one million square feet devote at least 12,000 square feet to day care facilities, either on-site or off-site, within the Midtown Cultural District, Bay Village, or Chinatown. However, at least 4000 square feet must be on-site. In addition, a goal of 50 percent affordability and 25 percent minimum affordability has been established by the BRA.

Through the adoption of a Resolution on June 29,1989 regarding the Project, the BRA found that the Project complied with Section 38-18.4 by proposing to provide 4,000 square feet of space for daycare use within the Project and 8,000 square feet elsewhere within the Midtown Cultural District. The facilities must be operated in accordance with daycare regulations to be adopted by the BRA. Among the specific criteria informing selection of providers will be the provider's success in operating day care centers with a substantial affordable care component.

Neighborhood Business Opportunities

Article 38 requires that an Applicant for a Proposed Project over 50,000 square feet use best efforts to market space within a Proposed Project to Neighborhood Business Establishments from Chinatown. Such best efforts must be detailed in a Neighborhood Business Opportunity Plan.

The Applicant has committed to fulfill this requirement in accordance with Section 38-18.3, as outlined by the Development Impact Project Plan approved by the BRA June 29, 1989.

Specifically, the Applicant will work with a neighborhood-based broker to finalize and implement a Neighborhood Business Opportunities Plan targeted towards neighborhood businesses to ensure business opportunities within the Project. The Applicant will offer space to such businesses under terms and conditions comparable to those generally offered to other lessees of the Project. The Applicant will provide advice on business planning,

merchandising, design, budgeting, staffing and financing to these businesses. The foregoing obligations cannot in any way hinder the opportunity to lease space in the Project from being made available to entrepreneurs from all of Boston's neighborhoods.

General Design and Environmental Impact Standards in Planned Development Areas

Projects in PDAs must also adhere to certain design and environmental impact standards in addition to those set forth in Article 31 of the Code. These standards concern shadow and wind impacts, transportation access, the skyline, landmarks and historic buildings, and the pedestrian environment and are set forth in Section 38-16. Through the adoption of a Resolution on June 29, 1989, the BRA found that the Development and Development Impact Project Plan for the Project was in substantial accord with all of the General Design and Environmental Impact Standards set forth in Section 38-16 of the Code. Exceptions from certain provisions of the Code and conditional use permits were recommended providing that the Project be subject to the BRA development and design review approval and that final plans incorporate mitigation measures deemed necessary by the Director to minimize any adverse environmental impacts. Additional information requested in this determination is necessary to carry out the development and design review processes of the BRA and establish to what extent mitigation measures may be required.

II. DEVELOPMENT REVIEW REQUIREMENTS - ARTICLE 31

Article 31 of the Code institutes a process by which large-scale development projects will be reviewed by the BRA. In its review of the DPIR, the BRA has identified certain components which are insufficient and which you must modify, and additional information which the BRA requires in order to issue an Adequacy Determination. The following is a description of the sufficiency of the materials submitted in the DPIR, and the additional materials which you must include in the FPIR.

The following are the BRA's specific comments in reference to the DPIR.

I. TRANSPORTATION COMPONENT

Each of the transportation elements submitted in the DPIR is sufficient to satisfy the scoping determination, but for the following information which must be included in the FPIR.

A. Traffic Management Element

1.1 1. The Applicant must provide an analysis of the regional impact of transportation demand generated by the Project. See letter from the Conservation Law Foundation, June 15, 1989. The analysis must project which regional highways and arterials will be used by automobiles to reach the project, and the estimated impact of such an increase in traffic on such highways and arterials.

1.2 2. The scope for this project required the analysis of twenty-two intersections which preliminary examination indicated would be affected by project-generated traffic. Upon review of the DPIR and other information, it appears that two intersections which were not scoped for analysis may also be significantly affected by increases in traffic volume. The following intersections must be analyzed for the existing no-build and build conditions in the FPIR.

Kneeland/Surface Artery
Church Green (Lincoln/Summer/Bedford)

1.3 3. Assumptions in the DPIR, based on the likely diversions which the creation of the westbound Essex Street link would induce, are in need of adjustment. Specifically, traffic going to and from background projects would use the widened Essex Street to a greater degree than is projected in the DPIR, resulting in improvement to some intersections. New assumptions must be incorporated into the FPIR.

1.4 4. The Applicant has committed to the substitution of existing pedestrian easements on site for new pedestrian easements within the improvements on the Project. A plan of such pedestrian easements must be included in the FPIR, including the specific hours during which the easement spaces will be accessible to the public and the type and hours of security to be provided.

1.5 5. The peak hour pedestrian counts on Figures IV-28 - IV-30 are higher than those indicated in the Commonwealth Center counts, for those locations which are analyzed in both studies. Differences should be clarified and discrepancies resolved.

I.6 6. Due to proximity in phasing and distance between the Project and the proposed Commonwealth Center project, it is important that the BRA and the Boston Transportation Department understand the joint impact of these projects. The FPIR must outline the differences in method and assumptions in the formulation of the Transportation Access Plans for both Projects and explain how each of these differences led to differences in level of service for common intersections.

1.7 7. The FPIR must include data regarding existing and future truck and taxi volumes and existing transit riderships.

1.8 8. Information available to the BRA indicates that the total existing off-street parking spaces in the study area is 9,010 not 10,710 since the P.O. Square and 125 Summer Street garages are not yet open. The FPIR must reflect this correction.

9. The following changes should be made to tables and text:

1.9.1 o Table IV-5/Pg. IV-26/Figure IV-9 - The FPIR must include peak pedestrian periods for A.M. Peak.

1.9.2 o Figures IV-18/IV-19 - The FPIR must include correct roadway terminology, i.e., "existing" roadway network should refer to the roadway network as it exists today (1989).

1.9.3 o Table IV-21 - The FPIR must clarify whether "auto trips" represent "person" trips or "vehicle" trips.

1.9.4 o Pg. IV-108 - The new exit at Hayward Place/Washington Street would serve the Chinatown Orange Line Station, not the Downtown Crossing Station.

1.10 10. A comparison of existing traffic volume data for intersections which were commonly analyzed for the Boston Crossing, Commonwealth Center, and the One Lincoln Street projects shows peak-hour volume differences among the three reports. For some intersections (e.g., Tremont/Boylston) total entering volumes are comparable, but there are differences in the volumes on the different

entering links. There are also differences in the LOS analyses for these intersections. Future volumes and LOS results likewise are different. Coordination among the three projects is required and all differences must be satisfactorily resolved.

1.11 11. Coordination among this Project, the Commonwealth Center project, and the One Lincoln Street project with regard to mitigation is needed and should be reported in the FPIR. In addition, the Applicant should report on efforts to establish a Traffic Management Association among the three projects in order to make such mitigation measures more
1.12 effective.

B. Parking Management Element

1.13 1. The Applicant's rate structures must encourage short-term, non-commuter parking and provide equal treatment in rates for patrons of cultural and community facilities including preferential rates if any are offered to patrons of community and cultural facilities.

1.14 2. Section 6.3 states that at present there is a 190-space surplus in the existing Lafayette Place parking garage. More information is needed to evaluate whether this number might be increased through parking management measures. The demand generated by the Lafayette Hotel, the retail portion of Lafayette Place, Jordan Marsh and other (non-project related) uses must be disaggregated, so that the demand for non-work parking can be more accurately assessed.

1.15 3. The DPIR presents an estimate of parking demand based on trip generation and modal split assumptions. It is assumed that 27.5% of retail non-work trips and 30% of work trips occur by auto, together accounting for the majority of trips. The FPIR must present mitigation measures which can decrease these percentages, with estimations of the specific decrease in percentage.

1.16 4. The FPIR must indicate how future No-Build parking demand was determined.

.17 5. The supply/demand analysis indicates a deficit of 2,000-2,300 spaces in the study area. A discussion of proposed mitigation of this deficit is required in the FPIR.

C. Construction Management Element

.18 1. It is unclear whether Washington Street would be closed from Avenue de Lafayette to West Street to provide a staging area or whether one lane would remain open. This would seem to be required to service the West Street properties. The FPIR must clarify this.

1.19 2. There seems to be some discrepancy in the timing of truck deliveries. On page V-161, it is stated that most deliveries would be completed before the PM peak hour or at night, whereas elsewhere it is stated that deliveries would be scheduled after the PM peak hour. This must be clarified.

1.20 3. The construction of Boston Crossing will be occurring at approximately the same time as the construction of the One Lincoln Street project. Truck routes to Boston Crossing are proposed adjacent to the One Lincoln Street project. The impact of the One Lincoln Street construction on truck circulation/access to Boston Crossing must be evaluated in the FPIR.

1.21 4. Mitigation measures to minimize construction worker parking must be included in the FPIR.

The information requested in the Construction Management Element will assist in the formulation of a Traffic Maintenance Plan pursuant to the City's Construction Management Program which will help to ensure that area traffic will be able to maneuver around the site. The execution of such Plan between the Applicant and the BTD is a prerequisite to the issuance of a building permit.

D. Monitoring Element

The monitoring program described in the DPIR is sufficient to satisfy the scoping requirements.

Except for the above requirements, the Transportation Component

of the DPIR is sufficient to satisfy the scoping requirements.

III. ENVIRONMENTAL PROTECTION COMPONENT

A. Wind

The analysis of the wind impacts submitted in the DPIR is sufficient to satisfy the scoping requirements, but for the following information which must be included in the FPIR:

1.22 1. The FPIR must include a map indicating velocity changes at each sensor point as requested by the scoping determination.

1.23 2. The FPIR must include an analysis of seasonal wind impact as requested by the scoping determination.

1.24 3. A comparison of sensor points which were tested for both the Commonwealth Center and Boston Crossing projects in the DPIRs indicates differences in the results. This discrepancy must be explained in the FPIR.

1.25 4. The Project as described in the DPIR would exceed BRA standards at three locations (points 3,4,5). However, during schematic design review changes were made to the Project's scale and massing which may affect these points. Specifically, building height and mass were transferred from the south to the north tower. These points should be re-tested for the FPIR, and mitigation proposed if standards are exceeded.

1.26 5. The sensor locations for Point 16 must be located in the Summer Street seating area rather than on the sidewalk.

B. Shadows

1.27 1. On page V-43 daylight savings time adjustment should have been made only for the autumnal equinox (and the summer solstice), not for the vernal equinox. If the March 21 studies were done assuming daylight savings time, they must be redone with the correct time.

2. Through the adoption of a Resolution on June 29, 1989 regarding the Project, the BRA found that the

1.28 Project complied with the shadow criteria contained in Section 38-16.1. However, such Resolution required that the FPIR contain documentation exhibiting that the area of the Boston Common shaded beyond the two-hour limit described in Section 38-16.1 of the Boston Zoning Code not exceed one acre for the class of projects described in Section 38.16.1. Such documentation should include shadow diagrams, measurements, and calculation of the shadow.

C. Solid and Hazardous Wastes

1.29 1. The results of further subsurface explorations and soil and groundwater testing must be included in the FPIR.

1.30 2. A definite description of any commitment to a program of recycling of operational waste is required.

D. Noise

1.31 1. More specific information regarding the HVAC systems (location, specifications, etc.) must be included in the FPIR.

E. Geotechnical and Groundwater Impacts

1.32 1. Pre-construction inspection of adjacent buildings must be included in the procedures designed to limit adverse impacts on adjacent structures. The FPIR must include more specific information regarding the performance criteria for the lateral earth support system and remedial measures in the event of unacceptable performance.

1.33 2. If dewatering of the Bloomingdale's site will require discharge into the City's storm drain system, a permit will be required from the Boston Water and Sewer Commission. The FPIR must include the requirements of the Commission for a permit.

F. Air Quality

1.34 1. The Applicant must provide an analysis of regional transportation and air quality impacts pertaining to tropospheric (ground-level) ozone. See letter from the Conservation Law Foundation, June 15,

1989. In order to do so, the Applicant must perform a mesoscale analysis of the additional hydrocarbon and nitrogen oxide emission burdens which the Project will produce and determine estimated ozone levels. Consultation with the Department of Environmental Quality Engineering regarding the appropriate methodology for this analysis is recommended.

1.35 2. Coordination is needed with the Commonwealth Center and One Lincoln Street projects with respect to the implementation of mitigation measures to reduce CO levels. A plan for such coordination must be described in the FPIR.

1.36 3. Optimization of the downtown traffic signal system is proposed as a mitigation measure. However, it appears from the transportation section discussion that the traffic analysis already assumed an optimization of the system. This needs to be clarified in the FPIR.

III. URBAN DESIGN COMPONENT

The Development and Development Impact Project Plan approved by the BRA on June 29, 1989 included Schematic Design Plans for the Project. In accordance with BRA procedures, a Project must be reviewed at several stages: schematic design, design development, and working drawings. As this review process is carried out, the points listed below must be addressed and then documented in the FPIR. While some of the changes requested below have already been made by the Applicant during review of the schematic design, they should nonetheless be documented in the FPIR as well. In addition the Applicant must address the issues raised in the June 15, 1989 letter from the Boston Society of Architects (the "BSA") and document any changes which have been made in response to the BSA's concerns. With the exception of these
1.37 following studies, the materials submitted in the Urban Design Component of the DPIR are sufficient to satisfy the scoping requirements.

A. Massing

1.38 1. The FPIR must include an alternative configuration that conforms with Article 38, as amended, reduces shadow impacts on the Common, and reduces the

average floor plate area of the south tower.

1.39 2. The ratio of height to perceived width of both the north and south towers must be increased in the alternative configuration described above.

1.40 3. The distance between the south tower and the proposed towers on the west side of Washington Street at Avery and Boylston Streets must be increased in the new alternative.

1.41 4. The FPIR must provide alternatives that emphasize the variety of massing elements in the base of the project and the differences in their streetwall heights and setbacks.

B. Streetscape

1.42 1. The Project's Harrison Avenue facade must be treated with the same level of concern for pedestrian comfort and amenity as the other project facades with respect to both the building elevation at the ground floor level as well as public improvements and other streetscape features at the sidewalk. The intersection of Harrison Avenue Extension and Avenue de Lafayette must not be treated as a "back alley."

1.43 2. The FPIR must contain studies illustrating maximized retail frontage with the maximum number of entry points on Washington, Summer, and Chauncy Streets. The FPIR must demonstrate continuous retail frontage with individual storefronts along Washington Street or provide an explanation regarding the engineering constraints presented by the underground garage which preclude this.

1.44 3. A design must be provided which illustrates pedestrian access to the specialty retail stores directly aligned with Bedford Street.

1.45 4. The FPIR must indicate more generous entries to "Opera Way" (the pedestrian way proposed to replace Avenue de Lafayette between Harrison and Washington).

1.46 5. The FPIR must include proposed public easements and hours of operation for interior pedestrianways.

1.47 6. Detailed plans must be included showing seating and amenities in the interior pedestrianways and the fifth floor food court.

1.48 7. Detailed plans must be included in the FPIR for the Washington Street sidewalk widening including paving lighting, and street furnishing.

C. Open Space

1.49 1. The FPIR must explore opportunities for outdoor public open space and performance areas at the West Street entry and elsewhere on the site.

1.50 2. The FPIR must illustrate options for use of rooftop space if any and for rooftop playground space to be used by the childcare facility.

1.51 3. The FPIR must explore opportunities for the improvement of the Summer Street park area.

D. Facades

1.52 1. The FPIR must include detailed elevation drawings and wall sections of exterior facades and interior public spaces describing materials and details for project elements.

1.53 2. The FPIR must contain options illustrating the recladding of the lower floors of the existing buildings on Chauncy Street and Avenue de Lafayette.

1.54 3. The FPIR must provide a discussion of visual arts opportunities in the Project, specifically, the Applicant's commitment to select artists to advise project architects in the design of the lobby, the marquee, the facades, and other components of the theatre project and in the identification of appropriate spaces for temporary and permanent public art in Boston Crossing and the surrounding streetscape.

1.55 4. The FPIR must present options that emphasize the variety of facade treatment along Washington Street.

IV. HISTORIC RESOURCES COMPONENT

The materials submitted in the Historic Resources Component of the DPIR are sufficient to satisfy the scoping requirements but for the following technical corrections:

1.56 1. The Paramount Theatre is a designated Landmark in addition to having status as a class II historic building.

1.57 2. The Opera House, the Evans House, and Filene's are currently being petitioned for Landmark status.

1.58 3. The Temple Place Historic District is now listed on the National Register.

1.59 4. The Proctor Building is a designated Boston Landmark.

1.60 5. The Ladder Blocks are considered the Pre-Fire Mercantile District, not the Pre-Fire Commercial District.

V. INFRASTRUCTURE SYSTEMS COMPONENT

The analysis of the Project's impact on infrastructure systems submitted in the DPIR is sufficient to satisfy the scoping requirements, but for the following information, the submission of which is required in the FPIR:

1.61 1. The extensive utility relocations necessitated by the Project require ongoing attention to the construction strategy and process. Refinement and documentation of utility upgradings and relocations, both temporary and permanent, is required in the FPIR.

1.62 2. The discussion of systems capacities does not address the impacts of other projects sufficiently as was requested. Instead, projected total consumption/generation levels are listed project-by-project, and there is no specified discussion of the inclusion of this information in the system capacity analysis. The FPIR must discuss combined systems impacts.

1.63 3. The Applicant should report on discussions held with the various public and private utility companies regarding required improvements. With

respect to sewer improvements, the Applicant must indicate to what degree a commitment to build separated storm drainage and sanitary sewage systems in abutting streets and in the lines to the Essex Street/Central Artery intersection can be made. With respect to proposed improvements to the water distribution system, the developer should indicate whether a commitment will be made

1.64 to replace the proposed 12" Southern Low Service line in Chauncy Street and the 12" Southern High Service line in Hayward Place and Harrison Avenue Extension, both indicated in Figure VIII-4.

1.65 4. The heating needs of the Project are planned to be provided by steam (Boston Thermal). An expanded discussion of steam system expansion and upgrading, if necessary, is required in the FPIR.

1.66 5. Additional discussion of opportunities for recycling and other conservation measures is required; i.e., can waste water from the cooling towers blowdown and the steam condensate be recirculated?

1.67 6. The Lafayette Hotel information should be included in infrastructure analysis charts featuring existing conditions.

1.68 7. The vaults must be constructed in such a way as to eliminate or minimize any pedestrian conflict or hazard during normal use and maintenance. The vault covers must match the pavement context. In general, the project should adopt the new Downtown Crossing and Cultural District sidewalk standards, as they are finalized by the DPW consultants.

1.69 8. Measures to implement the MWRA goal of reducing the inflow of storm water and/or the infiltration of groundwater into the sewage collection system must be included in the FPIR. The MWRA goal is a 2 for 1 reduction of infiltration/inflow, i.e., I/I flow into the system must be reduced at a rate of two times the projected new sanitary sewage flow.

1.70 9. According to the DPIR, the Boston Water & Sewer Commission ("BWSC") will model the project's demands for water on its computer system to verify the DPIR's finding that water flow and pressure

sanitary and fire fighting requirements (VIII-8). The results of BWSC's study should be provided in the FPIR, and the Applicant must indicate commitments to implement BWSC recommendations, if any.

VI. AGREEMENTS

The following must be provided in form and content satisfactory to the appropriate signatory public agencies before the Project can receive final approval by the BRA. They are not required for the FPIR.

1. Transportation Access Plan Agreement

2. Traffic Maintenance Plan in conformity with the City's Construction Management Program

3. Sale and Construction Agreement

4. Cultural Facilities Agreement pursuant to Article 38 of the Code

5. Memorandum of Understanding with Chinatown regarding Housing Creation and Job Training

6. Boston Residents Construction Employment Plan, pursuant to Chapter 12 of the Ordinances of 1986 of the City of Boston, as amended by Chapter 17 of said Ordinances, and Executive Order Extending Boston Residents Job Policy, signed by the Mayor on July 12, 1985

7. Memorandum of Understanding and First Source Agreement implementing the Boston for Boston program

8. Application of Lafayette Place Associates with respect to the Chapter 121A termination

But for the required corrections, clarifications, and additional information described above, the DPIR submitted is sufficient to satisfy the Scoping Determination.

We look forward to reviewing the FPIR.

Sincerely,

Pamela Wessling

Pamela Wessling
Assistant Director
Urban Design and Development

1.1 Effects of the Proposed Project on Major Commuter Arteries

Area-wide traffic impacts are discussed in detail in the FPIR/FEIR in Section 5.8 of Chapter IV, Transportation Impacts.

1.2 Kneeland Street/Surface Artery and Church Green

The Kneeland Street/Surface Artery and Church Green intersections have been analyzed for existing, No-Build and Build conditions and for the existing and revised roadway networks. The results of the analysis are described in detail in Sections 5.6 and 5.7 of the Transportation Component of the FPIR/FEIR.

1.3 Assumptions Concerning Essex Street

A greater percentage of vehicles was rerouted onto the two way Essex Street in the FPIR/FEIR than was previously assigned onto that path in the DPIR and DEIR from both Kneeland Street and from background development. A description of this new network distribution is located in Section 5.4 of the Transportation Component of the FPIR/FEIR.

1.4 Pedestrian Easement Plan

A plan and description of the public easements for the Boston Crossing project are provided in section 2.2.5 of the Urban Design Component. The public easements described will be an integral element of the development and will be kept open during normal retail hours of the development.

1.5 Discrepancies Between Commonwealth Center and Boston Crossing Peak Hour Pedestrian Counts

A description of the reason for the volume count discrepancies is included in Section 1.1 of the Transportation Component of the FPIR/FEIR.

1.6 Differences in Methods and Assumptions Between Boston Crossing and Commonwealth Center

A full discussion of the reason for the volume count discrepancies is included in Section 1.1 of the Transportation Component of the FPIR/FEIR.

1.7 Truck and Taxi Volumes and Transit Ridership

The intersections surrounding the project site were analyzed as "CBD" intersections. The "CBD" factor accounts for the inefficiencies of business area intersections. This is due to the complexity and general congestion of the environment, and includes pedestrian traffic, truck loading, bus blockage and taxi loading. The proportion of heavy vehicles (assumed to be 5 percent of the volumes on each approach) has not been changed from existing volumes to future volumes; therefore, all volume increases have a proportional heavy vehicle increase as well.

Existing transit ridership was obtained from the Kingston-Bedford DEIR and future transit use has been determined from modal splits obtained from the BTD. The modal splits were applied to the trip generation to determine the expected new transit ridership. Transit ridership for existing, future No-Build, and future Build conditions are outlined in Chapter IV, the Transportation Component, Section 6.0, of the FPIR/FEIR.

1.8 Off-Street Parking

The total number of existing parking spaces discussed in the FPIR/FEIR reflect the number of spaces existing within the study area. Spaces in garages that are not currently open are not included. Section 2.5 of the Transportation Component of the FPIR/FEIR includes a breakdown of existing spaces.

1.9 Changes to Text and Tables

AM peak hour pedestrian counts are included in Section 2.3 of the Transportation Component FPIR/FEIR. For clarity, the term "existing roadway network" was used to distinguish the roadway network without the network revisions from the revised network. The DPIR/DEIR and FPIR/FEIR describe three trip types in the Transportation

Component, Section 4.1: auto trips which implies vehicle trips, transit trips, and walk/other trips which refers to pedestrian trips. The new exit at Hayward Place/Washington Street will serve the Chinatown Orange Line and not the Downtown Crossing Station.

1.10 Comparison of Traffic Volumes

A full discussion describing the reason for the volume count discrepancies is included in the Transportation Component, Section 1.1 of the FPIR/FEIR.

1.11 Coordinated Mitigation

Mitigation measures proposed in the Boston Crossing DPIR and DEIR are consistent with the other projects' DPIR/DEIRs. Proponents for the One Lincoln Street, Commonwealth Center, and Boston Crossing projects have been working together to determine consistent mitigation that is included in the Transportation Component, Chapter IV, Section 8.0 of the FPIR/FEIR.

1.12 Traffic Management Association

Developers of Boston Crossing, Commonwealth Center and One Lincoln Street are working towards establishing a Midtown Developers Traffic Management Association (MDTMA). A more detailed description is included in Chapter II, General Information, Section 5.8.

1.13 Parking Rate Structure

A rate structure that will encourage non-commuter, short-term parking is being prepared by the developer for the non-exempt portions of the garage. Patrons of cultural facilities will benefit from the favored short term parking rate.

1.14 Work/Non-Work Related Parking

Section 6.3 of the Transportation Component of the FPIR/FEIR includes detailed information on work/non-work related parking at the garages near the site.

1.15 Mitigation Measures to Decrease the Percentage of Auto Trips

The Midtown Developers Transportation Management Association will work to promote transit use rather than automobile use. In addition, parking rates will be structured to discourage commuter trips and encourage short-term parking.

1.16 No-Build Parking Demand

The calculation for the future No-Build parking demand is described in Section 6.3 of the Transportation Component of the FPIR/FEIR.

1.17 Proposed Mitigation for Parking Deficit

Discussion of the parking analysis and mitigation for the future conditions is found in Section 6.3 of the Transportation Component on the FPIR/FEIR.

1.18 Washington Street from Avenue de Lafayette to West Street

A portion of the Washington Street auto-restricted zone will be occupied during the evening while the steel is being raised. At least one lane of Washington Street, however, will remain open throughout construction, allowing service to West Street properties.

1.19 Truck Delivery Timing

The impacts caused by construction trucks during the evening peak hour is expected to be minimal because most deliveries will be completed prior to the PM peak hour. Steel for erection of the Jordan Marsh Department Store will be delivered after the evening peak to the Washington and Summer Streets intersection to ensure pedestrian safety.

1.20 Truck Traffic

The number of trucks during any peak hour from the Boston Crossing project will be approximately ten. Truck traffic from the One Lincoln Street project will be similar. There are three intersections where truck traffic will be coincidental. These include: 1) Surface Artery/Essex Street/Lincoln Street, 2) Summer Street/Bedford Street/Lincoln Street, and 3) Kingston Street/Essex Street. The number of trucks at these intersections due to both projects will be a maximum of twenty trucks during any one hour. Coordinated truck traffic will be fully addressed in the construction management program. At all times during the construction of both projects, roadways will remain open to auto and truck traffic. The Developers of the two proposed projects are forming a MDTMA. The MDTMA plans to coordinate the truck traffic.

1.21 Construction Worker Parking

A complete description of mitigation measures to minimize construction worker parking is included in Section 7.4 of Chapter IV, the Transportation Component of the FPIR/FEIR.

1.22 Map Indicating Velocity Changes

Figures V-1 and V-2 in Section 1.0, Chapter V, Environmental Protection Component, show sensor locations with the 1% annual gust velocities and the 1% annual mean velocities with the proposed project and No-Build conditions.

1.23 Analysis of Seasonal Wind Impact

An analysis of the seasonal wind impact based on the design presented in the DPIR and DEIR are described in Section 1.3 of Chapter V, the Environmental Protection Component. A description of the seasonal wind impacts of the amended design is included in Section 1.5.2 of the Environmental Protection Component.

1.24 Comparison of Sensor Points Tested for Both Commonwealth Center and Boston Crossing

The inconsistencies in the Commonwealth Center and Boston Crossing DPIRs/DEIRs are a direct result of changes in building designs between the testing periods and are more fully described in Section 1.4 of Chapter V, the Environmental Protection Component of the FPIR/FEIR.

1.25 Analysis of Amended Design

The results of the re-analysis of wind impacts based on changes to the designs of Commonwealth Center and Boston Crossing are included in Section 1.5 of Chapter V, the Environmental Protection Component of the FPIR/FEIR.

1.26 Sensor Location for Point 16

The sensor location for Point 16 was retested and relocated as requested. The results are included in Section 1.5.2 of Chapter V, the Environmental Protection Component of the FPIR/FEIR. Annual winds no longer exceed the BRA's 31 miles per hour (mph) guidelines, while the guideline is barely exceeded twice on a seasonal basis.

1.27 Daylight Savings Time Adjustment

Technical corrections to the DPIR/DEIR regarding an adjustment for daylight savings time are described in Section 2.0 of the Environmental Component of the FPIR/FEIR.

1.28 Consistency with Section 38-16.1 of the Boston Zoning Code

A description of coordinated action between the Boston Crossing and Commonwealth Center projects to document shadow on the Boston Common shaded beyond the two-hour limit described in Section 38-16.1 of the Boston Zoning Code, is discussed in Chapter V, section 2.0 of the FPIR/FEIR.

1.29 Results of Further Subsurface Explorations

The results of further subsurface exploration and soil and groundwater testing are included in Section 3.2 of Chapter V, the Environmental Protection Component of the FPIR/FEIR.

1.30 Commitment to Recycling Operational Waste

A commitment to recycling operational waste is described in Section 3.3 of the Environmental Protection Component of the FPIR/FEIR.

1.31 HVAC Systems

Information concerning the HVAC systems is located in Section 4.2 of the Environmental Protection Component.

1.32 Pre-Construction Inspection

Pre-construction inspection of adjacent buildings, performance criteria, and remedial measures are described in Sections 5.2 and 5.3 of the Environmental Protection Component.

1.33 Boston Water and Sewer Commission Requirements for Permit to Allow Dewatering Discharge into the City's Storm Drain System

The requirements are described in Section 5.4 of the Environmental Protection Component.

1.34 Mesoscale Analysis

A mesoscale analysis of hydrocarbon and nitrogen oxide emissions was included in Section 6.1.1 of the Environmental Protection Component.

1.35 Coordinated Mitigation with the Commonwealth Center and One Lincoln Street Projects

A description of the coordination of mitigation measures is included in Section 6.2 of Chapter V, the Environmental Protection Component, and Section 8.0 of Chapter IV, the Transportation Component.

1.36 Traffic Signal Optimization

The traffic signal optimization is described in Section 6.3 of Chapter V, the Environmental Protection Component.

1.37 Response to BSA Letter of June 15

A response to the Boston Society of Architects letters of June 15 and June 29 is provided in Chapter X, the Response to Comments section (BSA Letters of June 15 and June 29, Letters 14 and 15), as well as in the Urban Design Chapter of the FPIR/FEIR.

1.38 Alternative Project Configuration

The FPIR/FEIR describes an alternative configuration of the proposed project, which has been revised since the DPIR/DEIR. This revised scheme conforms with Article 38, as amended, and the criteria for sensitive shadow impact areas in the Midtown Cultural District Zoning. The revised design also reduces the average floor plate of the South Tower, as is described more fully in the Urban Design Chapter, Section 2.1.1.

1.39 Ratio of Height to Perceived Width of Towers

As described in the Urban Design Chapter, Section 2.1.2, the ratio of height to perceived width of the North and South Towers of the proposed project has been increased since the DPIR and DEIR.

1.40 Distance Between Towers

As is described in the Urban Design Component, Section 2.1.3, the distance between the South Tower and the proposed towers on the west side of Washington Street at Avery and Boylston Streets has been increased to allow 262 feet between the Boston Crossing South Tower and Commonwealth Center's South Tower and 105 feet between the Boston Crossing South Tower and Commonwealth Center's North Tower.

1.41 Variety of Massing of Base of Project

As is described in Section 2.1.4 of the Urban Design Component, the FPIR/FEIR describes a variety of massing elements in the base of the project to emphasize entries and to create visual diversity at the pedestrian level. Differences in streetwall heights and setbacks are indicated in the project elevations accompanying the Urban Design Component.

1.42 Harrison Avenue Facade

Treatment of the ground floor level of the project's Harrison Avenue facade is described in detail in the Urban Design Component, Section 2.2.1.

1.43 Retail Frontage and Entries

The FPIR/FEIR contains studies in the Urban Design Chapter illustrating maximized retail frontage and a maximum number of entry points on Washington, Summer, and Chauncy Streets. In addition, engineering constraints, which permit continuous retail frontage along Washington Street but do not allow entrances at three bays, are explained in Section 2.2.2 of the Urban Design Component.

1.44 Pedestrian Access Aligned with Bedford Street

The existing garage entrance on Chauncy Street precludes pedestrian entry to the specialty retail center directly on axis with Bedford Street. A new public entrance is planned north of and immediately adjacent to the garage entrance, as is described in section 2.2.3 of the Urban Design Component.

1.45 Opera Way Entries

Description of the entries to Opera Way is provided in Section 2.2.4 of the Urban Design Component.

1.46 Public Easements

A description of the public easements is described in Section 2.2.5 of the Urban Design Component.

1.47 Interior Seating and Amenities

The fifth floor, like other commercial areas in both the office and retail components of the Boston Crossing project, will be designed in conjunction with the project's leasing and tenant design efforts. Preliminary plans are available for inspection as part of the schematic design submitted to the Inspectional Services Department for code-compliance review. The design will be modified and resubmitted to ensure code compliance as final designs are detailed for both common areas and tenant spaces.

1.48 Washington Street Sidewalk Widening

Detailed plans for the widening of sidewalks along Washington Street and the paving, lighting, and street furnishing to accompany these improvements are included in Section 2.2.7 of the Urban Design Component.

1.49 Outdoor Public Space

Spaces for temporary outdoor performances at appropriate points along Washington Street will be provided. Details in design, management, and location are being developed with the Downtown Crossing Association and the Boston Public Works Department. Other outdoor spaces that could potentially be used for performances would be located in the refurbished Summer Street auto restricted zone, and at the Washington/Hayward Place entrance to Bloomingdale's. This outdoor space is described in section 2.3.1 of the Urban Design Component.

1.50 Use of Rooftop Space

Plans for use of rooftop space include a rooftop playground to be used by the child care facility being designed for the third floor of the building at Chauncy and Summer Street. Since current law does not allow child care facilities above the third floor, the rooftop space is also at that level. A description of this facility is provided in the Urban Design Component, Section 2.3.2.

1.51 Summer Street Park Area

Campeau proposes to refurbish the existing Summer Street park area by installing new benches, trash receptacles, and lights where needed. The existing brick pavement between the trench drains would remain, but the historic granite plaque would be repaired or replaced.

1.52 Facade Materials

A detailed description and drawings of exterior facades and the Opera Way interior public space is provided in Section 2.4.2 of the Urban Design Component. A description of the Opera Way interior public space is provided in Section 2.2.4 of the Urban Design Component of the FPIR/FEIR.

1.53 Hotel Recladding

Options illustrating the recladding of the lower floors of the existing buildings on Chauncy Street and Avenue de Lafayette are not provided, as the project proponent will not own the Lafayette Hotel property and therefore cannot alter its facade.

1.54 Visual Arts Opportunities

Section 2.4.4 of the Urban Design Component of the FPIR/FEIR includes a description of visual arts opportunities and the selection of an artist to identify opportunities in the project for permanent and temporary art installations.

1.55 Variety of Facade Treatment

Variety of facade treatment along Washington Street is described in Sections 2.4.1 and 2.4.2 of the Urban Design Component.

1.56- Historic Resources
1.60

Technical corrections indicated in the Preliminary Adequacy Determination have been incorporated into the FPIR/FEIR document, Historic Resources Component, Chapter VII.

1.61 Refinement and Documentation of Utility Upgradings

The utility system modifications required to accommodate the proposed project have been and will continue to be the subject of discussions with the respective utility company representatives. Concepts for the relocation and/or support-in-place of each system have been developed and approved and details are being developed for each system as the design proceeds. A detailed list of utility system treatments is included in Section 2.0 of Chapter VIII, the Infrastructure Systems Component of the FPIR/FEIR.

1.62 Systems Capacity Analysis Including Other Downtown Projects

A systems capacity analysis including future build-out is included in Section 3.0 of Chapter VIII, the Infrastructure Systems Component of the FPIR/FEIR.

1.63 Sewer Improvements

Conceptual studies are being performed to determine the feasibility of constructing a new separate storm drain system in the project area and are being evaluated with the BWSC. If these evaluations result in the development of a feasible system, an arrangement will be made between the proponent, the BWSC, and possibly other property owners as to the method and timing of its implementation. General agreements are in place with regard to the implementation of the necessary utility system modifications that have been identified between the developer and the appropriate utility company.

1.64 Water Distribution System

To allow the project to be serviced entirely from the SLS system for domestic water, the proponent is reviewing the planned expansion of the 12" SLS water line within the Boston Crossing project with the Boston Water and Sewer Commission. The 12" Southern High Service (SHS) and 16" High Pressure Fire Service (HPFS) water mains proposed to be located in Harrison Avenue Extension and Hayward Place are required to allow the existing lines located within the proposed project limits in Avenue de Lafayette to be discontinued and will be implemented by the developer.

1.65 Steam System Expansion

Discussions with Boston Thermal Energy Corporation (BTEC) staff indicate that the existing steam distribution system within the project area has adequate capacity to meet the needs of this and other anticipated projects without affecting their ability to service existing users. A letter from BTEC is included in Appendix L. Services to the project site may require modifications to meet projected loads but any modifications to the steam system in streets directly adjacent to the project are within areas presently scheduled for modifications to BWSC water mains. Details for this construction, if required, will be developed in close coordination with other site activities to minimize the impact on adjacent traffic operations.

1.66 Recycling and Other Conservation Measures

A description of the proposed recycling and other conservation measures is included in Section 6.0 of Chapter VIII, the Infrastructure Systems Component.

1.67 Inclusion of Lafayette Hotel in the Analysis

Tables VII-2 through VII-7 of Chapter VIII, the Infrastructure Systems Component, have been revised and now include the Lafayette Hotel in the analysis.

1.68 Sidewalk Treatment

The treatment of the sidewalks surrounding the Boston Crossing project is described in Section 2.2.7 of the FPIR/FEIR Urban Design Component and in Section 8.0 of the Infrastructure Systems Component. The proponent expects to adopt the new Downtown Crossing and Cultural District sidewalk standards, as they are finalized by the Public Works Department consultants.

1.69 Measures to Implement MWRA I/I Reduction Objectives

A separate storm drain system to serve the project site is presently being evaluated in conjunction with the BWSC. If it is found that this system is feasible, its implementation will allow the project to exceed the MWRA's expressed I/I goal. In addition, the project is incorporating low flow water usage systems in its design that will minimize the amount of water demand and sewage generated from the project.

1.70 Evaluation of the Optimum Water Supply System

The BWSC has requested, and the proponent has agreed to separate its water demand to the extent feasible. This will mean that the project's on-site fire protection system service connections will be from the Southern High Service (SHS) water system and that its domestic water supply will be from the Southern Low Service (SLS) system. This commitment by the development leads to the requirement, expressed in 1.64 above, of the extension of the SLS system which can probably be implemented by the developer within the basement of the project.

2.0 RESPONSE TO MEPA CERTIFICATE

Letter from: James Gomes, Undersecretary for John DeVillars

Dated: September 15, 1989

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

MICHAEL S DUKAKIS
GOVERNOR

JOHN DeVILLARS
SECRETARY

September 15, 1989

(2)

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Boston Crossing (Lafayette Place, Phase II)
PROJECT LOCATION	: Boston
EOEA NUMBER	: 6929
PROJECT PROPONENT	: Lafayette Place Associates
DATE NOTICED IN MONITOR	: August 9, 1989

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above project adequately and properly complies with the Massachusetts Environmental Policy Act (G.L.,c.30,s61-62H) and with its implementing regulations (301 CMR 11.00).

This major retail and office project will add about 480,900 square feet of retail space, 1,449,500 square feet of office space, 67,000 square feet of day care and athletic facilities, 10,000 square feet of cultural use, and about 700 to 1000 new parking spaces.

The project site is within blocks of two other significant projects which are presently within the environmental review process. The One Lincoln Street (Kingston/Bedford/Essex, EOEA: 6132) and the Commonwealth Center Project (EOEA: 7113). Together, these three projects could add nearly five million square feet, and total new development in this area of Boston has been estimated at nearly 9 million square feet.

Alternatives Analysis

The BRA scope and comment letter to the Secretary, dated February 16, 1988. identified a build out alternative for analysis. This alternative was defined by the Article 27D, which establishes the Downtown Interim Planning Overlay District (IPOD) for the area, including this 7.46 acre site. The height and

massing controls for this area, also known as the Medium Growth Subdistrict, range from 125 feet to 155 feet in height, and 8 to 10 for Floor Area Ratios (FAR).

It was anticipated that the project alternative analyzed would meet the spirit, as well as the letter of the IPOD guidelines. In other words, this alternative should have been "reduced density" alternative that would have provided a comparative basis for comprehending project-related environmental impacts, and accordingly expand the reviewers understanding of the potential opportunities to avoid or minimize those impacts. The goal of the alternative's analysis clearly should be to provide a complete information base for agency decision-makers in order that they may satisfy their statutory obligations under M.G.L. c.30, s.61.

In contrast, the alternative that was presented is about 200,000 square feet larger than the preferred alternative, which shows that the developer's goal of the DEIR alternative's analysis is in conflict with the state agencies objectives. While this alternative may technically meet the specifications of the Downtown IPOD, the analysis of alternatives appears to be primarily self-serving -- offering little more than a justification for the proponent's project.

2.1 Until it can be demonstrated that the impacts relating to this project can be mitigated effectively, the EIR review must also provide options which would avoid impacts to the environment. The best approach is provided through the alternatives analysis where there are meaningful differences between the development programs that are being evaluated and compared.

Historical Impacts

2.2 The Massachusetts Historical Commission has determined that the impacts associated with this project will have significant impacts on existing historical structures. The Final EIR must demonstrate that those impacts will be mitigated or avoided.

Impacts to MBTA Facilities

2.3 The response to this issue in the DEIR is too general to even understand the most basic information, such as the relationship of the MBTA property to the proposed project and associated infrastructure. Site plans, and even schematic plans to complement the text in Section 6.0 (p VIII-48), would have
2.4 been helpful. Conclusions that the construction impacts associated with project construction will have minimal impact on MBTA property appear to be unsubstantiated in the report.

2.5 Given that impacts are not well described, it is not possible to judge the reasonableness of the mitigation, and in particular, the "proactive monitoring system" which has been proposed to address any problems that could arise. At a minimum, the proponent should commit to hiring personnel who will review the proposed plans and oversee construction activities in behalf of the MBTA.

Boston Parking Freeze

The Draft EIR states, "The Lafayette Place Garage Parking Freeze Permit allows 1,267 non-exempt spaces, ...". "Lafayette Place's existing garage provides approximately 1,024 spaces." This leaves a surplus of 243 spaces; however, the proposed plan is for an additional 700 to 1000 new parking spaces, and the Draft EIR makes it clear that the proponent "(i)ntends to build the maximum feasible amount of parking...".

2.6 The Final EIR must show how more than 250 spaces are feasible, in light of the limited availability of non-exempt spaces.

2.7 Moreover, the FEIR must explore the issue raised by the Conservation Law Foundation that the Boston freeze regulations are inconsistent with the federal regulations, which exempt only residential spaces and complimentary spaces.

Traffic

Traffic Report Organization

2.8 In general, this is a difficult section of the report to review, although the comparative traffic tables, IV-47 and IV-53 in the Mitigation Section are quite helpful. The report might be easier to understand if the analyses of the transit and pedestrian impacts were presented entirely separate from vehicular traffic. In addition, the following problems were encountered.

2.9 o Inclusion of the distribution diagram, for the Revised Roadway System, within the Transportation Section of the EIR, rather than a separate document, would have been useful.

2.10 o The DEIR states, "A more detailed mitigation analysis is included in Section 8.0 of the Transportation Component.", (p IX-1). However, the bulk of the report is significant and there are several Section 8.0s, including the Air Quality Analysis. A simple reference to a page number would have been of assistance.

Revised Roadway System

2.11 In the BRA comment letter, dated February 16, 1988, several roadway system alternatives were identified for analysis in the EIR. Apparently, several of these have been analyzed, but from the discussions in the report, it is not clear that all the roadway options identified in that letter have been studied. Accordingly, the FEIR should present a clearer description of the revised study areas with respect to the BRA correspondence.

2.12 The One Lincoln Street EIR (6132) showed that a two-way Essex Street would result in additional traffic impacts, such that a widening and controlling traffic to one-way, southbound on the Surface Artery would also be needed to improve traffic operations. This report does not appear to require similar changes to the Surface Artery. Explain.

Traffic Mitigation

2.13 It has generally been observed that the intersection improvements proposed are offset by impacts. For example, the DEIR indicates that the Traffic Relief Program (TRP) will be expanded to Boylston Street/Essex Street Corridor between Arlington Street and the Surface Artery. How effective has the Program been thus far? Observations along Cambridge Street show that vehicles will park illegally, as long as the curb-space is available. Double parking may not be as much a problem, however.

2.14 As part of the mitigation, elimination of the pedestrian signal has been proposed. Given that pedestrian activity should be encouraged as an alternative to vehicular activity, it is enigmatic that mitigation to ease vehicular problems has been proposed to the detriment of pedestrian traffic.

2.15 The Final EIR must demonstrate that the proposed pedestrian rescue island is of adequate dimensions to safely handle the peak pedestrian volumes. Most importantly, the FEIR should show that the proposed mitigation measures have been accepted by the City
2.16 of Boston, in light of their associated impacts.

Impact on MBTA Transit Systems

2.17 The concerns raised in the comments from the MBTA and EOTC with respect to project related impacts, particularly during peak periods, on the existing transit system must be addressed, and appropriate mitigation must be proposed.

Need for Regional Traffic Impact Analysis

2.18 In the One Lincoln Street EIR (EOEA #6132), the traffic analysis acknowledged that a more regional approach was warranted to understand the traffic impacts on the area's major roadway network. With the review of the DEIR for Commonwealth Center project (EOEA #7113) also complete, it is apparent that such a study should be undertaken. The FEIR should discuss whether such a study is in the planning stage, and what responsibilities will be undertaken by the proponent.

Water Use

The following questions and issues should be addressed in the Final EIR.

2.19 o Why was the water use from Lafayette Hotel not included in the total water demand estimates?

2.20 o The decrease in water use for Jordan Ma sh (Table VIII-4) should be explained.

2.21 o The introductory paragraphs to the sections of the report which evaluate infrastructure state that project developments would be evaluated within the analysis. However, it does not appear that the report has considered other projects in the water supply capacity analysis, since the projects have been identified in a separate section of the DEIR. This should be corrected as necessary in the Final report.

2.22 o The mitigation proposed appears to be limited to the use of low water use plumbing fixtures. The opportunity to off-set water demand has not been considered. Leak detection and remediation is an effective measure that must be considered as part of the water demand mitigation program.

2.23 o It has been noted that the potential for impact to the MBTA facilities has received cursory attention in this section of the Draft EIR.

Sewer and Storm Drain Systems

2.24 The discussion concerning the existing and proposed storm drain system is difficult to follow. Further, the schematic plan, Figure VIII-8 does not enlighten the reviewer significantly, because existing Sanitary Sewers and Storm Drains are not distinguished clearly from those that have been proposed.

2.25 The Final EIR should explain in greater detail the relationship between the existing and proposed sewer and storm
2.26 systems. Has the new storm drain system been sized to convey flows other than project-related flows? With the proposed storm
2.27 system, at what point will the flows be recombined with

2.23 discharges [illegible] the CSO? Why is the parking garage drainage entering the sewer system (p. VIII-30 ?

2.29 Some comments discussed in the water use section of this Certificate apply to this analysis also. Specifically, project growth within the infrastructure service area does not appear to have been evaluated as part of the future build analysis. Also the potential for impacts to nearby MBTA facilities should be
2.30 considered in greater detail.

Shadow

2.31 The shadow analysis has shown a distinct difference between the As-of-Right and the Preferred Alternative. The 155 foot alternative will not result in any net new shadows on Boston Common. To the contrary, the proposed project will add new shadows to Boston Common.

Since the One Lincoln Street project and the Commonwealth Center project EIRs have also shown new shadows on the Common. the elimination or further minimization of shadows is warranted.

If the shadow impacts associated with these projects goes unchecked, it is unclear how Boston Common can be safeguarded from the effects of other new shadows, resulting from future developments.

September 15, 1989
DATE

John DeVillars, Secretary

Comments received :

6/21/89 CLF

9/12 89	MBTA
9/5 89	MAPC
9/13 89	EOTC
9/8 89	Tremont on-the-Common
6/23 89	MHC
9/8 89	DEP. DAQC
8/15/89	FAA
9/6/89	MWRA
9/8/89	City of Boston, The Environment Department

JD/NB/nb

2.1 Alternatives

Like many other major Boston projects, Boston Crossing is undergoing simultaneous environmental reviews by the BRA and EOEA. The BRA issued a Scoping Determination dated April 11, 1989, which directed that the Draft Project Impact Report include an analysis of an alternative to the proposed project that would be allowed as-of-right, without zoning relief by Article 38, Section 7 of the Boston Zoning Code. By letter dated May 15, 1989, EOEA indicated its acceptance of the BRA's Scoping Determination of the issues to be addressed in the Environmental Impact Report. In compliance with the Scoping Determination, the Draft EIR included an analysis of the as-of-right alternative and also included an analysis of the No-Build scenario.

The Certificate issued on the DEIR requests further analysis of reduced density alternatives to the proposed project as a means of providing a comparative basis for comprehending project related impacts. Pursuant to M.G.L. c. 30, paragraph 62A, however, the impacts and alternatives considered during the MEPA process must be limited to that part of the project which is within the subject matter jurisdiction of a needed permit. The following sections discuss reduced density alternatives in the context of those areas identified in the Certificate which are within the scope of necessary permits.

Historical Impacts

The Massachusetts Historical Commission's comments on the proposed project initially focussed on the project's overall scale and height and the effect of the towers in casting shadows and creating a "canyonization" effect. Of particular concern to MHC was the potential for increased shadow on Boston Common, a National Historic Landmark.

Since MHC's concerns related primarily to the shadow impacts generated by the height of the project's towers, the No-Build scenario and the as-of-right alternative, which has a height of 155 feet and contains no tower elements, provide adequate bases for comparison of the impacts generated by towers. Because of the lack of tower elements, the as-of-right alternative and the No-Build scenario would create fewer shadow impacts than the Boston Crossing project. Moreover, neither the as-of-right nor the No-Build alternatives would generate a net increase in shadow on the Common.

As discussed in the DEIR, the shadow impacts generated by the Boston Crossing project occur primarily at the southern end of the site. Although these impacts had already been mitigated to a large extent by generous setbacks of the towers from the street line, further mitigation has been accomplished in response to concerns expressed by Friends of the Common and others during the BRA's consideration of the project's development plan. The southern tower (500 Washington Street), which is closer to the Common than the project's northern tower (One Summer Street), was reduced in height by three stories and redesigned with smaller floor plates. The floors eliminated from the southern tower were added to the northern tower where they will have less shadow impact. The result is that shadow from the southern tower has been reduced. The amount of new shadow cast on the Common by the Boston Crossing project at the time studied (October 21, 10:00 am) which was originally predicted to be 0.1 acre, has been reduced to 0.01 acre.

As discussed below, the MHC has met with project designers since submission of the DEIR, and has acknowledged in a letter dated September 1, 1989, that the project changes were very responsive to MHC's earlier concerns with respect to the massing, height and design of the project and indicated that the new design satisfied many of MHC's earlier concerns with respect to preservation issues. The proponent will continue working with MHC to mitigate any remaining concerns.

MBTA Facilities

The Certificate from EOEA seeks further information as to the construction impacts of the proposed project and its associated infrastructure on the MBTA's facilities. The construction impacts of the project on the MBTA are primarily a function of the location and footprint of the proposed project. Any project of substantial size constructed on the project's location and encompassing the project's site would have substantially the same impacts as the Boston Crossing project. A reduction in the scale of the project would not significantly reduce these impacts.

The best measure of the project's construction impacts on the MBTA, therefore, is provided by a comparison of the project to the No-Build scenario. The proponent has identified potential impacts related to the project and has developed mitigation strategies. These mitigation measures, which are discussed in more detail in Chapter VIII, Infrastructure Systems Component, and in Chapter IX, Mitigation Measures, would be necessary and effective for any major development of this site.

Boston Parking Freeze

Existing levels of public parking in the Midtown area, even without the addition of the Boston Crossing project, are insufficient to meet existing demand. Moreover, the City's Midtown Cultural District Plan which will create theatres, galleries and other cultural destinations in the area, will generate increased demand for public parking. Overnight and snow emergency parking is also needed for Chinatown neighborhood residents.

A primary concern related to parking is that the creation of a large number of new public parking spaces will add to traffic congestion at intersections in the area. The existing parking deficit in the area has the desired effect of discouraging the use of automobiles and encouraging the use of alternative forms of transportation. An increased deficit of parking spaces, however, may have the undesired effect of encouraging illegal parking which can add to traffic congestion and air quality problems. The additional parking proposed for the project will not eliminate the parking deficit. A significant reduction in the project's parking component would, however, increase the severity of the deficit, possibly creating a strain on alternative forms of transportation, and causing increased illegal parking.

A comparison of the proposed project with traffic levels of the No-Build scenario provides an adequate basis against which to measure the traffic impact. As discussed below, existing levels of service at intersections in the area of the proposed project are already at poor levels of service, and would be made worse under the No-Build scenario by the development of other proposed projects and cultural facilities in the area. These levels of service would be improved by the proposed project with the implementation of the project's proposed mitigation measures.

Traffic Impacts

The No-Build scenario provides a useful basis against which the proposed project's impacts on traffic can be measured. In general, existing levels of service at surrounding intersections will be improved by the project and its associated mitigation program.

Sensitivity analyses performed by project consultants at the AM and PM peak periods have demonstrated that each reduction of 100,000 square feet of office space from the proposed project results in a decrease of thirty to forty vehicle trips to aand from the site. For a reduction to make a noticeable impact at any intersection, a reduction of 100 vehicles on a critical movement is necessary. In order to achieve a critical movement reduction of 100 vehicles, the project's office space would have to be reduced by approximately 500,000 square feet, a reduction of over thirty percent. A reduction of this magnitude is not a feasible alternative for the proposed project.

Water, Sewer and Storm

A comparison of the existing and No-Build conditions to conditions that would exist following construction of the project is the most useful means of measuring impacts on water, sewer and storm systems. As discussed in the FPIR/FEIR, although the project will generate an increase in water flow, the existing distribution system is adequate to satisfy project demands. Mitigation measures, such as the installation of additional Southern Low Service (SLS) lines, are being evaluated. Similarly, although the project will generate an increase in wastewater flow, either of two combined sewer route options could accommodate the project. Mitigation measures which are being considered, such as construction of a separate storm sewer system, will enhance this capacity.

Provided there is sufficient capacity to accommodate the project's and other projects' water and sewer needs, the impacts of the project on water supply, sewer and storm sewer systems will not be significant. According to project consultants, any substantial development of the site, especially the Hayward Parcel at the southern end of the site, will require the same level of mitigation of water supply and sewer and storm drainage effects that will be required for the proposed project. Significantly reduced density alternatives, however, would not have the economic capacity to support such mitigation.

2.2 Historical Impacts

The MEPA scope indicated that the Massachusetts Historical Commission (MHC) determined that the impacts associated with the proposed project would have a significant effect on existing historic resources. This determination was based on MHC's review of an earlier design for the project. The MHC met subsequently with the project designers and

BRA staff to review a revised design for the project and thereafter submitted a letter dated September 1, 1989 (attached with letter 2.6 in this chapter) which acknowledged the updated design and indicated that the new design satisfied many of MHC's earlier concerns with respect to preservation issues. Responses to MHC's existing concerns are included in the FPIR/FEIR, Historic Resources Component, Chapter VII.

2.3 Relationship of MBTA Property to the Proposed Project

Plans and a further description of existing MBTA facilities adjacent to the project site have been included in Section 11.0 of the Infrastructure Systems Component of the FPIR/FEIR.

2.4 Impact on MBTA Property

A further discussion of construction impacts on existing MBTA facilities has been included in Section 11.0 of the Infrastructure Systems Components of the FPIR/FEIR.

2.5 Review of Proposed Plans and Construction Activities

Comprehensive pre-condition and construction monitoring surveys in conjunction with MBTA representatives has been committed to in Section 11.2 of the Infrastructure Systems Component of the FPIR/FEIR.

2.6 Non-Exempt Spaces

Based on discussions with the Boston Transportation Department (BTD), there are ample non-exempt parking spaces in the parking bank as established by the Boston Air Pollution Control Commission (BAPCC) that allow the addition of non-exempt parking.

2.7 Boston Freeze Regulations

The question of the consistency of the Cambridge and Boston parking freeze programs with Federal regulations has been a topic of debate in recent years. Nonetheless, the EPA has not formally taken the position that any part of the Boston parking freeze program is invalid. Local development projects, such as 75 State Street and others, have proceeded through development and construction in reliance upon the

parking freeze program. The project proponent has received no indication from BAPCC that the Boston parking freeze program has been found in violation of applicable Federal standards. Absent such an indication, the proponent has no choice but to proceed under the presumption that the BAPCC's interpretation of the freeze program is correct and valid. The proponent fully intends to comply with BAPCC's procedures and regulations and to continue working with BAPCC to obtain necessary permits.

2.8 Traffic Report Organization

The Transportation Component of the DPIR and DEIR was organized by conditions - existing, future No-Build, and future Build. Each section included all aspects of the condition such as vehicular access, public transportation, pedestrian circulation, and parking. In an effort to maintain consistency and to make it easier to compare the DPIR and DEIR to the FPIR/FEIR, the Transportation Component of the FPIR/FEIR has been organized similarly to the Transportation Component of the DPIR and DEIR.

2.9 Inclusion of Revised Roadway Distribution in DEIR

The revised roadway distribution is found in Figure IV-21 (page IV-74) in the DEIR and is included in the FPIR/FEIR in Chapter IV, Transportation Component, Section 4.2, Figure IV-6.

2.10 Location in Report of Mitigation Analysis

The mitigation analysis was included in the DEIR in Section 8.0 of Chapter IV, the Transportation Component and Section 1.0 of Chapter IX, Proposed Mitigation Measures. The mitigation analysis is also included in the FPIR/FEIR in Section 1.0 of Chapter IX. Mitigation Measures; beginning on page X-1 and in Chapter IV, the Transportation Component, Section 8.0, page IV-56.

2.11 Revised Study Area

The letter dated February 16, 1988 from the BRA indicates four circulation options. These are:

1) Maintaining the existing traffic circulation pattern, including retention of Avenue de Lafayette in its present location;

2) Closing Avenue de Lafayette and redirecting traffic circulation to Hayward Place and westbound Avery Street;

3) Extending the Washington Street pedestrian mall and the resulting impact on Temple, West, and Tremont Streets; and

4) Widening Essex Street for two-way traffic from Avenue de Lafayette to Atlantic Avenue.

Option 1 was not fully analyzed because the proposed project includes Avenue de Lafayette in its footprint. Option 2 was fully analyzed as part of the revised roadway network. Option 3 was analyzed, but it was determined that the extension of the pedestrian mall was not necessary. Option 4 was analyzed and is included as part of the revised roadway network. Bruce Campbell & Associates (BC&A) discussed both the existing and revised network with the BTD and it was determined that the following two options be studied:

- Option 1 - The existing roadway network, and

- Option 2 - The revised roadway network including reversal of Hayward Place and Avery Street, the closure of Beach Street at the Chinatown gate, and the widened two-way Essex Street.

The BRA Scoping Determination dated April 11, 1989 also referenced the circulation options explored in the DPIR and DEIR and in the FPIR/FEIR.

2.12 Changes to Surface Artery

The resulting traffic impacts from the revised roadway network have been thoroughly examined by Bruce Campbell & Associates (BC&A). The two-way Surface Artery with the mitigation proposed by BC&A will operate at an acceptable level of service.

2.13 Effectiveness of Traffic Relief Program

The Traffic Relief Program (TRP) is one of the most significant traffic programs implemented by the City of Boston. The results from Phase I of the TRP indicate the effectiveness thus far: travel times were decreased nearly 30%, average speeds rose 33%-50%, parking violations were reduced nearly 60% and CO concentrations were reduced along the arterials. (ITE Journal, August 1987, page 24).

2.14 - Elimination of Pedestrian Signal
2.16

Since submission of the DPIR and DEIR, BC&A has re-explored the mitigation options available at the Boylston Street/Tremont Street intersection. The new mitigation proposed improves the level of service and maintains the exclusive pedestrian phase. The mitigation at the Boylston Street/Tremont Street intersection and expected levels of service are described more fully in Section 8.0, Mitigation Measures, of the Transportation Component (Chapter IV).

The provision of a rescue island is no longer the recommended mitigation.

2.17 Project Related Impacts on Transit System

Section 6.1 of the Transportation Component of the FPIR/FEIR addresses methods for reducing impacts on rapid transit during peak hours. The methods include capacity increases (implemented by the MBTA) and peak hour spreading. As also stated in Section 6.1, the cumulative effect of the planned background development and the proposed Boston Crossing project on transit ridership does not exceed capacity.

2.18 Regional Traffic Impact Analysis

An area-wide study of traffic impacts resulting from the development of the Boston Crossing project was prepared. The proposed Boston Crossing project is expected to be responsible for less than two percent of the total traffic volumes on roadways entering Boston and, in most cases, less than one percent. A more detailed description is presented in Section 5.8 of the Transportation Component of the FPIR/FEIR.

2.19 Why the Water Use from the Lafayette Hotel was not Included in Estimates

The DPIR and DEIR did not include the Lafayette Hotel in the analysis of existing conditions because the utility requirements of the Lafayette Hotel will not change as a result of the proposed project. The analysis has, however, been revised to include the Lafayette Hotel. The analysis showing the reduced net change is included in Section 7.0 of Chapter VIII, the Infrastructure Systems Component.

2.20 Decrease in Water Use for Jordan Marsh

The size of the Jordan Marsh Department Store has been reduced, resulting in a reduction in water use by the store. The office space on the site will increase with the proposed project and Tables VIII-2 through VIII-7 present estimated impacts of the proposed Boston Crossing project relative to existing conditions.

2.21 Water Supply Capacity

The existing water distribution system, with modifications implemented by the proponent, is adequate to serve the proposed project while maintaining existing levels of service to other projects in the vicinity.

As other new projects are proposed in the area, the impacts of the new proposed projects on the water system will be assessed by BWSC. It is the policy of the BWSC to assess the impact of new projects at the time the projects are proposed. At the time a project is proposed, necessary improvements will be identified by the BWSC in order to maintain the level of service to existing and future proposed projects. Many of the improvements would be implemented as mitigation measures by the proponents of the future projects.

2.22 Leak Detection

The water lines to be used to service the proposed development in many cases are being installed by the proponent or have recently been installed. New lines will be installed assuring that leakage is minimized. Problems in any of the existing lines in the area have not been identified to the developer.

2.23 Impact to MBTA Facilities

A discussion of impacts to MBTA facilities is included in Section 11.0 of the Infrastructure Systems Component of the FPIR/FEIR.

2.24 Separate Storm Drainage Facility

Engineering studies in conjunction with BWSC staff are ongoing to determine the feasibility of implementing a separate storm drainage or sanitary sewer system in the area of the project.

2.25 Relationship Between Existing and Proposed Sewer and Storm Systems

The new separate storm drain system under evaluation with the Boston Water and Sewer Commission (BWSC) would be constructed in parallel with the existing combined sewer system. New connections from the proposed projects would discharge from drainage collected on-site into the new system. It would be designed to accommodate storm flows from existing separate street drainage inlets and building storm drainage service connections in the streets in which it runs. The existing combined sewer systems would continue to function as sanitary sewers for the proposed projects and would also continue to collect storm drainage from contributing areas which would not be serviced by the separate storm drainage system.

2.26 New Storm Drain System Sized to Convey Flows Other than Project-Related Flows

The storm drain system being evaluated is being sized to convey stormwater flows from the entire Boston Crossing project area as well as contributing areas located upstream of this project including the proposed Phase 1 and Phase 2 Commonwealth Center project sites.

2.27 The Point Where the Flows will be Recombined with Discharges from the CSO

The exact routing of the separate storm drain system is under evaluation at this time with the BWSC. It is anticipated that the new system will recombine with existing combined sewer flows on a temporary basis west of the Massachusetts Department of

Public Work's (MDPW's) existing Dewey Square tunnel. The system will be designed to be extended during the Central Artery construction by others as a separate system to a discharge point at or adjacent to the Fort Point Channel.

2.28 Parking Garage Drainage

Parking garage floor drainage will be discharged to the sanitary sewer system in accordance with the Massachusetts Building Code.

2.29 Project Growth within the Infrastructure Area

Estimated project growth within the infrastructure area has been included in the analysis in Section 3.0 of the Infrastructure Systems Component.

2.30 Impacts to MBTA Facilities

The potential for impacts on existing and proposed MBTA facilities by the proposed Boston Crossing has been included in Chapter VIII, the Infrastructure Systems Component, Section 11.0 of the FPIR/FEIR.

2.31 Shadows on the Boston Common

The project configuration has been revised since publication of the DPIR/DEIR. The DPIR/DEIR shadow analysis was prepared for the earlier design of the Boston Crossing project. Results of the shadow analysis of the revised design as analyzed in the FPIR/FEIR indicates that the proposed project, together with the proposed Commonwealth Center project, is in conformance with the shadow criteria with respect to shadows that are cast on the Boston Common beyond the two-hour limit described in section 13-16.1 of the Boston Zoning Code. A description of the FPIR/FEIR shadow analysis is provided in Chapter V, Environmental Protection Component, Section 2.0.

3.0 RESPONSE TO THE MASSACHUSETTS BAY TRANSIT AUTHORITY

Letter from: Thomas P. Glynn, General Manager

Dated: September 14, 1989

MASSACHUSETTS
BAY
TRANSPORTATION
AUTHORITY

Thomas P. Glynn
General Manager
Transportation Building
Ten Park Plaza
Boston, Massachusetts 02116

September 14, 1989

3

RECEIVED
SEP 15 1989
MEPA

John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, Massachusetts

Attention: MEPA Unit

RE: EOEA File No. 6929
Draft EIR
Boston Crossing

Dear Secretary DeVillars:

The Massachusetts Bay Transportation Authority (MBTA) has reviewed the Draft Environmental Impact Report (DEIR) for the Boston Crossing Project submitted by Campeau Massachusetts, Inc. The MBTA is optimistic that this review will provide a valuable asset in the effort to complete the environmental review process and is enthusiastic in its commitment to work cooperatively with the Developer. In addition, we are pleased to state that the MBTA and Campeau have developed a close working relationship. This relationship has produced the promise of a satisfactory outcome of all issues that the two organizations have identified.

After careful review of the DEIR, the MBTA offers the following comments:

1. It is important to recognize the size of the proposed action and to take in to account the broader view of nearby associated activities.

   With respect to the MBTA's interests, the Boston Crossing Project will produce a demand for approximately 45,000 daily trips more than 5,000 in the peak hour. Given the location of the proposed project, it is reasonable (subject to the discussion of parking in item 3 below) to expect half the daily trips and 3,000 of the 5,000 peak hour trips taking place by transit.

   While the MBTA's interest is to increase ridership, one particular concern we have is our ability to accommodate additional peak hour riders. In fact, the MBTA will soon begin a campaign to encourage staggered work hours in order to make better use of existing capacity.

3.3 Beyond the view of the Boston Crossing Project, the MBTA recognizes that this Project is one of a number of proposed projects which together comprise the new Midtown District. Again, the MBTA understands the public goals of the City and the Boston Redevelopment Authority in pursuing the development of the Midtown. However, the effect of the Midtown development will be to significantly increase downtown MBTA ridership, again focused around peak period use. The MBTA's understanding of the magnitude of the Midtown District activity is that it will likely produce more than 100,000 daily trips with more than 15,000 or more trips focusing on the peak hour.

The densities and uses proposed by the developers and the ability of those developers to invest and gain an economic return is, in part, made possible by the reliance on the MBTA's infrastructure.

3.4 2. One measure of action that the MBTA is undertaking is that of staggered work hours. By formalizing staggered work shifts the MBTA can ensure more effective use of its capacity. The MBTA recommends that the proponent submit a staggered work hour strategy to the MBTA and include such a proposal in the Final Environmental Impact Report (FEIR) for public review.

3. A second measure of action that the MBTA is taking is the forthcoming South Boston Piers Transit DEIR. The DEIR's initial and still primary focus is on the South Boston Piers area. However, through the planning activities of developers and public agencies, it became clear that the Midtown area represented an important consideration in the development of additional transit capacity. The MBTA's preferred alternative, the Underground Transitway has been chosen, in part, because it is an alternative which provides long term additional capacity to support the proposed action and other Midtown District activities.

3.5 The MBTA has previously notified all parties that its ability to implement this transit improvement is contingent upon the ability to develop a public-private partnership to pay for transit. In particular, the MBTA is seeking developer financial participation as part of the funding plan for the Transitway. Our rationale for developer involvement is that they will experience a real benefit from transit and that limited federal funding opportunities are most likely with private sector involvement.

While the MBTA has not yet brought the issue of who should pay to closure, we are attempting to ensure maximum developer cooperation until a financial plan is created.

4. The Transitway proposal includes a subsurface connection between South Station and Boylston Station via either Essex Street or Avery Street, Hayward Place and Avenue de Lafayette. The Avery Street alignment has several advantages, including a superior connection at Boylston Station; station locations at the center of the Midtown development; and the removal of construction disruption from Essex Street -- a major arterial at the edge of Chinatown. In order to implement the Avery Street alignment, the MBTA has committed significant staff and consultant resources to the investigation of the feasibility of a joint construction program with the Boston Crossing Project.

   We are pleased to report that we have reached conceptual agreement on the Transitway issue with Campeau Corporation on design and construction activities under Hayward Place. Campeau and the MBTA have agreed that their slurry wall proposed along the northside of Hayward Place will be located underneath the Bloomingdale's building line. The design of this slurry wall will also allow the MBTA to later use this wall as an outside wall of its proposed Midtown Station.

3.6 It is hoped that formal and final agreement on this issue can be achieved for publication in the FEIR.

5. The MBTA continues to work with developers on the MBTA's needs at the corner of Hayward Place and Washington Street. Campeau proposed to dislocate the MBTA's present permanent easement to allow for a major facility entrance. The MBTA and Campeau have not yet agreed on a new location for the MBTA's needs in that area which include:

3.7 * an emergency exit for Chinatown Station

3.8 * present and proposed subway ventilation requirements

3.9 * major public entrance for the Midtown Transitway Station

3.10 References to these requirements which appear on P.-35 and VIII-48 and elsewhere need to be updated in the FEIR consistent with the Authority's needs.

3.11 6. The MBTA has developed a plan for our Downtown Crossing "Summer Street Concourse." The major abutters are Lincoln Properties and Campeau. Lincoln Properties has agreed to participate in an upgrading of the Concourse and the MBTA is seeking a similar agreement with Campeau. This issue remains unresolved.

3.12 The DEIR references specific actions the proponent plans to take to improve existing MBTA facilities. Obviously the MBTA and Campeau must work closely to ensure design standards and needs of the MBTA.

3.13 7. P.V-146 - Par. 7.2 - Construction Staging area - Although it is mentioned in various later sections of the report, it should be noted that safe access must be maintained to all MBTA facilities at all times. The staging schemes requested close off the entrances at Chauncy and Hayward Place.

To summarize, the MBTA certainly understands and supports the City and developer objectives of the Boston Crossing Project. However, we are very much concerned about the impact of this Project and the cumulative impact of Midtown development on our infrastructure. We are pleased that at this point in the process, our expectations are that the MBTA will secure the agreements it needs to continue to upgrade existing and future services. The MBTA needs to ensure that it can provide adequate capacity over the long term. We have here identified ways for the Campeau Corporation to assist the MBTA in ensuring that capacity and look forward to any other options that might be identified.

The MBTA hopes these comments prove helpful in your review of the Boston Crossing Project and look forward to resolving these issues with you.

Should you require any additional information, please do not hesitate to contact my office.

Sincerely,

Thomas P. Glynn
General Manager

cc: P.F. McNulty
J.C. Aiello
C.B. Steward
D.J. Kidston
J.A. Chmielinski

3.1 - Impact to MBTA Capacity

3.4

Section 6.1 of the Transportation Component of the FPIR/FEIR shows that the cumulative effects of the planned background development and the proposed Boston Crossing project on transit ridership does not exceed capacity. Section 6.1 also adresses methods for reducing the impacts on rapid transit during the peak hours. The project proponent will work with tenants of the proposed project to develop staggered work hours. The retail trips to the site will be predominantly off-peak. A staggered work-hour plan will be accomplished through the Midtown Developers Transportation Management Association. A more detailed description of the MDTMA is included in Section 5.0 of Chapter II, General Information of the FPIR/FEIR.

3.5 - Developer Participation and Agreement on Transitway Issues

3.6

Developers of the proposed Boston Crossing project support the proposed expansion of the MBTA system to the South piers and South Boston and have devoted resources to the design and engineering of MBTA facilities at the site and revised the design to allow the proposed improvements. Campeau and its team of architects, engineers, and construction managers have devoted considerable time and funds to the redesign of the Boston Crossing project to accommodate the future South Boston Piers Transitway proposal.

- Engineering, construction phasing, and design studies have tested numerous locations for the southernmost slurry wall of the project, along Hayward Place, to ensure that the MBTA's currently preferred alignment (Avery Street/Hayward Place/Avenue de Lafayette vs. Essex Street) is not impeded by Boston Crossing's parking garage. As a result of these negotiations, the slurry wall will be located several feet north of the existing property line, reducing the parking space count on the upper levels of the proposed garage by a total of approximately sixty spaces. At considerable expense, Campeau will make the parking garage deeper with a smaller floor plate to recover the lost spaces.

- Campeau's engineering and construction team is reviewing a slurry wall design with MBTA engineers which will accommodate future construction of the proposed South Boston Piers Transitway line and will serve as the northerly wall of the future Transitway station planned to be located beneath Hayward Place.

3.7 - 3.9 MBTA Facilities at the Corner of Hayward Place and Washington Street

- Campeau architects, Skidmore, Owings & Merrill, have worked extensively with MBTA staff and designers, CBT and URS to create a design for a proposed emergency exit within the Bloomingdale's structure which will replace the existing, derelict exit structure on Hayward Place. The Bloomingdale's emergency exitway has been designed to be upgradable in the mid-1990's to an afternoon entranceway for northbound Orange Line traffic. In the following decade, the exitway may be upgraded to an attractive entrance to an expanded Chinatown station which would serve the proposed South Boston Piers Transitway line as well as the existing Orange Line. The prospective entrance features a skylit stairway and arcaded walkway connections to the 500 Washington Street office building above Bloomingdale's and the Bloomingdale's store.

- Subway emergency ventilation in the existing emergency exit facilities on Hayward Place will be accommodated in the new Bloomingdale's structure. Campeau and its engineers are working with MBTA engineers to identify opportunities for future expansion of the subway ventilation facilities.

Section 2.2.1 of the Urban Design Component includes plans and elevations of the subway station improvements.

3.10 MBTA Facilities

Section 11.0 of Chapter VIII, Infrastructure Systems Component, includes a discussion of MBTA facilities and the project impact on them. The discussion addresses the latest requirements of the MBTA as noted to the developer.

3.11 Upgrading of the Concourse

The developer plans to contribute to the improvement of the Summer Street Concourse and is developing plans for this area of the project site. The plans will incorporate existing facilities and potential facilities to be reviewed in agreements between abutters and the MBTA. Design for this area is ongoing and will be coordinated closely with MBTA representatives.

3.12 Coordination of MBTA and Developer to Ensure Design Standards and Needs of MBTA

The proponent intends to work in close coordination with the MBTA to ensure that all proposed modifications to the facilities and other project-related construction is performed in a way that will enhance the transportation experience of existing riders and will increase the number of project-related trips that will employ the T.

3.13 Safe Access to be Maintained to MBTA Facilities

The developer is committed to maintaining functional, safe access to the MBTA facilities located adjacent to the Boston Crossing site at all times during construction of the proposed Boston Crossing project.

4.0 RESPONSE TO THE METROPOLITAN AREA PLANNING COUNCIL

Letter from: David C. Soule, Executive Director

Dated: September 5, 1989

Metropolitan Area Planning Council
60 Temple Place, Boston, Massachusetts, 02111 · 617-451-2770
serving 101 cities and towns in Metropolitan Boston

RECEIVED
SEP 11 1989
MEPA

September 5, 1989

The Honorable John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA Unit

(4)

RE: Boston Crossing
Draft Project and Environmental Impact Report
EOEA 6929

Dear Secretary DeVillars:

In accordance with the provisions of Chapter 30, Section 62 of the Massachusetts General Laws, the Council has reviewed the above Draft Environmental Impact Report.

The proposed project will add 1.8 million gross square feet (gsf) to the area now occupied by Jordan Marsh, Lafayette Place and the Lafayette Hotel. The scale of this project is expected to have significant impact on downtown retailing. Overall, the proposal of 3,365,000 gsf more than doubles the existing 1.5 million gsf. An as-of-right build-out would total nearly 3.6 million gsf. The proposed project will have an Floor:Area Ratio of 10.36 compared to 4.95 which now exists on a smaller site area. The development program will add 1.45 million gsf of office space and 325,500 gsf in additional retail as well as a gallery/museum, an athletic club and child care space totaling 77,000 gsf. The basic plans call for rebuilding Jordan Marsh, constructing a new retail mall in place of the failing Lafayette Place Retail Center, establishing a Bloomingdale's department store, two office towers and and doubling underground parking from the existing 1024 spaces to 1724-2024 spaces.

The Planning Council commends the developers and the preparers of this DEIR for an exceptionally clear discussion - aided by sketch and map figures - of potential design impacts. In addition to the urban design context, Council staff review of the Draft Environmental Impact Report concentrated on the anticipated impacts on housing, transportation and public benefits. MAPC comments follow in a sequential order referring to the sections as they appear in the text of the DEIR.

Section II - 5: Public Benefits

The development will generate an additional 9200 permanent jobs over existing employment levels and over $11 million in additional annual property taxes.

ank E. Baxter, *President* Franklin G. Ching, *Vice-President* X-65 Marjorie A. Davis, *Secretary* Martha K. Gjesteby *Treasurer*
Executive Director David C. Soule

4.1 Housing and job linkage programs are vital components of the public benefit package to be generated by this development. The Planning Council is pleased to acknowledge the outreach and partnership efforts of the developer with community based development agencies as well as the collaboration with the Boston Redevelopment Authority. The developer states a goal of creating 500 housing units in the Chinatown community. Discussion in the DEIR, pages II-10 - 11, however, discuss using housing linkage funds in conjunction with the development of 250 units on Parcel R-3/R-3A and financing a community facility, leaving an apparent shortfall of 250 units.

4.2 The Planning Council strongly supports the creation of a Retail Jobs Academy. The developer proposes to begin the Academy through a portion of it Jobs Contribution Grant. However, there is no provision for financing continuing operations. The Council proposes that retailers pay into an operations fund based on leased square feet to be matched and administered by the developer.

4.3 The Council anticipates that Jordan Marsh and Bloomingdale's have elaborate employment "flow charts" as befitting large department stores. In addition, many smaller retailers locating in the specialty mall will offer manager/assistant manager positions as well as opportunities associated with purchasing and administration for retail chains. Academy training promises to provide upwardly mobile career ladders within the new complex and within the regional/national chains that will locate in the development. Above providing initial training, MAPC hopes the Academy will be used to provide ongoing education for people assuming retail jobs, including post-hiring educational opportunities and career tracking, so that employment does not become stratified among professionals commuting from the suburbs and city residents holding dead end jobs.

4.4 Approximately 12,000 gsf will be developed for child-care. The developer did not give a target client (number of children) population. Also, it is not stated if the proposed facilities are to be "for-profit" or "non-profit." The Planning Council hopes that cost of child-care will be
4.5 affordable to the employees of the new retail complex. MAPC agrees with the proponent that it is important to make the slots affordable, and urges the establishment of sliding scale fees or across the the board subsidies. Child-care that is not affordable to the full-time entry level employees at Boston Crossing should not be considered a public benefit.

Section IV: Transportation

4.6 The Council is troubled by the proposal to expand parking on the development site by a net increase of 575-875 spaces. The nature of retail shopping at Bloomingdale's and Jordan Marsh may cause a significant increase in already unpleasant traffic congestion when the new parking becomes available. The increased congestion will effect both pedestrians
4.7 near Downtown Crossing, nearby office workers as well as other motorists. Effects of the increased vehicle traffic will be exacerbated street noise, air pollution and an increased potential for traffic accidents. Although MAPC is wary of any additional parking, the negative impacts can be eased somewhat if these spaces are assigned to firms in the office towers and
4.8 not open to the general public.

.9 Boston Crossing rightly relies extensively on the public transit system to accommodate the impacts of the development project. The increase of 2000 peak hour transit trips may have a dramatic impact on demand for fringe parking. MAPC would like to encourage the project proponent to work with our agency and others to develop strategies that will encourage communities to pose additional fringe parking facilities.

4.10 MAPC staff believes that additional effort can be made by the proponent to encourage visitors to the shopping center to use public transit if it were to provide customers, making a minimum purchase, with subway tokens for the trip home. Such systems have been implemented in commercial areas in other states with success in reducing demand for parking and automobile travel.

Thank you for the opportunity to review and comment on this Draft Environmental Impact Report.

Sincerely,

David C Soule

David C. Soule
Executive Director

cc: Rick Dimino, MAPC Rep., Boston
Paul Reavis, BRA
Campeau Massachusetts, Inc.
HMM Associates, Inc.
Steven Landau, MAPC Staff
Dan Fortier, MAPC Staff

4.1 Housing Linkage

The Chinatown Community Plan and the Housing Improvement Program are comprehensive, community based plans developed by the Chinatown community. These plans establish goals and objectives that will direct future growth in Chinatown for the next decade. The primary intent of the plan is to improve the quality of life for Chinatown residents.

In support of the housing initiative, the Boston Redevelopment Authority has identified several parcels of land on which affordable housing units can be developed in Chinatown. The overall goal of the Chinatown Housing Improvement Program is to develop 500 units of affordable housing on these identified parcels of land.

To help the community realize this goal, the proponents of Boston Crossing are recommending to the Boston Redevelopment Authority that its linkage contribution be used towards the development of affordable housing on two parcels identified by the BRA as developable sites, Parcels A and B, located in Chinatown. Current plans for the two parcels include the development of 250 housing units, two-thirds of which will be affordable.

4.2 Retail Jobs Academy

The proponents of Boston Crossing are recommending to the Neighborhood Jobs Trust that a portion of its Jobs Creation Contribution be used to establish the City's first Retail Training Academy. The proponents are requesting that linkage start-up funds for the Academy be pledged for a three to five year period.

The Academy will be a valuable resource for Boston Crossing retailers to draw upon to fill available positions within individual business establishments. The developers will encourage retailers who utilize the services of the Academy to become corporate sponsors. This will ensure continual operation of the program. In addition, the proponents of Boston Crossing will encourage participating retailers to work with Academy trainers in designing a curriculum that is up to date with the needs of the retailing industry.

4.3 Ongoing Education

The proponents will work with the Human Resource departments of Jordan Marsh and Bloomingdale's Department Stores as well as the managers of national chains located within the specialty retail center to develop on-going retail training seminars.

4.4 - Child Care
4.5

The proponents of Boston Crossing have proposed to construct 12,000 square feet of child care space. This will serve approximately 120 children. The proponents will issue a Request for Proposals to select a provider(s) to operate its child care center(s). Proposals will be accepted from both the for-profit and non-profit child care providers.

4.6 - Increased Parking and Assignment of Parking Spaces
4.8

The new garage beneath Bloomingdale's will expand Boston Crossing's total space count to approximately 2,024 (a net addition of 875 spaces after adjusting for the loss of 125 spaces on the Hayward Place surface lot). Discussions are underway with the Boston Air Pollution Control Commission (BAPCC) and the Boston Transportation Department (BTD), in connection with the preparation of a Transportation Access Plan, concerning the eventual regulation of the new spaces. As a mixed-use project, Boston Crossing will need a mix of spaces:

- Exempt (non-parking bank) spaces for project employees which have little impact on pedestrian peak hour traffic conflicts; and

- Non-exempt spaces to serve the project's destinational retail components, theatres, cinemas, restaurants, and the surrounding Midtown Cultural District, primarily in the evening, and Chinatown residents at night.

Garage management programs and rate structures, to be developed as part of the Transportation Access Plan and Parking Freeze permit application, will be used to encourage certain kinds of parking (van and car-pools) and discourage others (single occupancy commuter trips). Through the Midtown Developers Transportation Management Association (MDTMA) being formed by Campeau and other developers, such policies will be expanded and employer participation will be encouraged. With techniques such as staggered hours among major employers, desirable spaces reserved for multiple-occupant vehicles, and ride-share opportunity databases, the developer, in conjunction with the BTD, aims to minimize the impact of the additional parking spaces in the surrounding area.

Increased traffic due to the parking garage has been incorporated into the air quality study. Air quality impacts from increased traffic and from the parking garage itself were examined and no exceedances were found at the closest intersection to the parking garage.

4.9 Fringe Parking Facilities

The Midtown Developers Transportation Management Association (MDTMA) being formed by developers of the proposed Boston Crossing, Commonwealth Center, and One Lincoln Street projects will address the issue of fringe parking as it relates to the Boston Crossing project and other new projects in the downtown area. The MBTA is investigating new commuter rail/subway parking facilities. Developers of Boston Crossing plan to work with the MBTA, MAPC, and the communities which may house the garages to gain support for the garages.

4.10 Encouragement of Public Transit Use

In an effort to encourage visitors to use public transit, the developer, through the Midtown Developers Transportation Management Association, is investigating measures such as providing customers making a minimum purchase, with subway tokens for the trip home and other measures to reduce vehicular traffic.

5.0 RESPONSE TO THE EXECUTIVE OFFICE OF TRANSPORTATION AND CONSTRUCTION

Letter from: Frederick P. Salvucci

Dated: August 8, 1989

The Commonwealth of Massachusetts
Executive Office of Transportation & Construction
Office of the Secretary
10 Park Plaza, Room 3510
Boston, MA 02116-3969
Telephone 973-7000
TDD (617) 973-7306

Michael S. Dukakis
Governor
Frederick P. Salvucci
Secretary
and
M.B.T.A. Chairman

RECEIVED
SEP 15 1989
MEPA

( ) E.N.F. (X) DRAFT E.I.R. ( ) FINAL E.I.R. No. 6929

DATE: 08-08-89 DATE RECEIVED: 08-08-89 COMMENTS DUE :

TOWN/CITY: BOSTON, MASSACHUSETTS

PROJECT PROPONENT: CAMPEAU MASSACHUSETTS, INC.
ONE AVENUE DE LAFAYETTE
BOSTON, MASSACHUSETTS

5

PROJECT DESCRIPTION: BOSTON CROSSING, BOUNDED BY WASHINGTON STREET, SUMMER STREET, CHAUNCY STREET, AVENUE de LAFAYETTE, HARRISON AVENUE EXT AND HAYWARD PLACE, BOSTON, MASSACHUSETTS. The proposed project will add approximately 1,449,500 S.F. of new office space, 325,500 S.F. of new retail (155,400 S.F. currently vacant at Lafayette Place Mall will also be included in the analysis for a total of 480,900 S.F. of addition retail space), 67,000 S.F. of new child care and athletic club facilities and 10,000 S.F. of cultural uses. The existing Layafette Hotel located on the site will remain. In addition, there will be parking provided for approximately 1,024 vehicles in an under ground parking garage and a surface parking lot.

(✓) COMMENTS (SEE ATTACHED) ( ) NO COMMENTS

DATE: 9/13/89

FREDERICK P. SALVUCCI

The Commonwealth of Massachusetts
Executive Office of Transportation & Construction
Office of the Secretary
10 Park Plaza, Room 3510
Boston, MA 02116-3969
Telephone 973-7000
TDD (617) 973-7306

Michael S. Dukakis
Governor
Frederick P. Salvucci
Secretary
and
M B T A Chairman

RECEIVED
SEP 15 1989
MEPA

EOTC Comments on the DEIR for Boston Crossing
Boston, MA
EOEA # 6929

The Executive Office of Transportation and Construction has reviewed the DEIR for the proposed Boston Crossing Development. This project when completed will consist of 1,926,000 s.f. of new development space. The project site is bounded by Washington Street, Summer Street, Chauncy Street, and Hayward Place. Both office and retail is proposed for this project in addition to athletic, child care and cultural facilities.

This project is an extremely large development in the Midtown District of Boston. Due to its ideal location, a significant number of tenants and employees of the development are expected to use the MBTA rapid transit system. This area is also well served by MBTA buses. EOTC is hopeful that with the proper mitigation commitments, tenants, employees and clients will take full advantage of the transportation system in order to reduce vehicle trips in this area. To mitigate the significant increase in passengers that are expected to use the MBTA transportation system as a result of this project, the proponent has been in contact with the MBTA and is continuing to work with the MBTA in this regard. Passegeways to the MBTA Orange, Red, and Green Line directly abutt the development site.

As the proponent is aware, the MBTA has completed and is still in the process of completing several improvements to the rapid transit system. One of the major improvements currently being studied by the MBTA is the construction of an Underground Transitway. This system is proposed to connect the Midtown District with the Fort Point Channel area and is proposed to be located directly adjacent to the Boston Crossing project. EOTC is pleased to see that the proponent has been in contact with the MBTA in an effort to properly coordinate the Boston Crossing project with MBTA proposed improvements.

Improvements proposed by the proponent in the DEIR include: 1) coordinating the location of the slurry wall with the proposed MBTA Underground Transitway tunnel, 2) providing connections to the proposed Underground Transitway and to the MBTA rapid transit system at the Hayward Street/Washington Street intersection, and 3) maintaining direct connections to the MBTA system at the Chauncy Street/Summer Street intersection. The proponent is also working with the MBTA on the Washington Street Concourse rehabilitation project.

5.1 The proponent has met with the MBTA regarding the location of the slurry wall, proposed along the northside of Hayward Place. Both parties have agreed to locate the slurry wall underneath Bloomingdale's proposed building line. Documentation outlining this agreement and future use of the slurry wall for the proposed Underground Transitway should be included in the FEIR. A plan displaying the proposed location of all improvements that are adjacent to Hayward Place should
5.2 also be included in the FEIR.

5.3 The proponent proposes to maintain direct connections to the Red Line at the Chauncy Street/Summer intersection. Improvements at this location should be discussed in greater detail in the FEIR. The proponent is advised that safe access must be maintained at this station and all other MBTA stations
5.4 located adjacent to the Boston Crossing Crossing project.

5.5 The MBTA currently has a permanent easement at the Hayward Street/Washington Street intersection. This easement connects to the Orange Line and is currently used as an emergency exit. This easement also allows for ventilation for the transit system. As part of the Boston Crossing project, the proponent is proposing to work with the MBTA to relocate this easement and provide for a new entrance to the transit system and for future pedestrian connections to the proposed Underground Transitway. These improvements must be discussed in greater detail in the FEIR.

5.6 In the level of service analysis, the proponent analyzed several intersections and described mitigation for many of these intersections. According to the DEIR, the City of Boston will complete some of the improvements described under the Traffic Relief Program (TRP). However, it is unclear who will complete the remaining intersection improvements described in the DEIR. The proponent should include a chart in the FEIR which summarizes the level of service with improvements for each of the intersections, completion date for mitigation at each of the intersections, and party responsible for completing mitigation improvements.

5.7 More important, as a result of the traffic conditions that currently exist in downtown Boston, the proponent of the Boston Crossing project should carefully examine pedestrian circulation to minimize pedestrian and vehicular conflicts along Washington Street, Chauncy Street, Avery Street, Hayward Street and other neighboring streets. Recommended improvements should be described and outlined in this regard in the FEIR.

In an effort to reduce the number of vehicles to the site, the proponent describes Transportation Demand Management Strategies. The proponent proposes to provide on-site locations for MBTA transit and bus pass sales, encourage tenants to subsidize a portion of employees public transportation costs, make public transportation schedules available on site, and promote public transportation availability in retail advertising and the marketing of office space. The proponent should discuss in greater detail proposed options that will be recommended for transportation subsidies and discuss what efforts will be made by the proponent to encourage implementation of these transportation subsidy programs. The proponent should work closely with prospective tenants to insure that a program for employee transportation subsidies and transportation schedules are in place upon tenant opening. Locations for pass sales should also be in place upon project completion.

We understand that most of the parking proposed for this development will be for shoppers. We commend the proponent in its efforts to minimize vehicle trips by tenants and employees in peak commuting hours by providing parking primarily for shoppers and by proposing methods that would encourage tenants and employees to utilze other methods of transportation to the site.

For those parking spaces that will be preserved for tenants and employees, the proponent should state the number of spaces that will be allocated for carpools, vanpools, and buspools and describe the mechanism for how employees will be charged and thus be encouraged to carpool or use alternative transportation modes under the proposed rate structuring.

Given the size of this project, the proponent should commit to hiring or designating a transportion coordinator that will work prior to and after tenants have moved into the development. The transportation coordinator should work with existing and prospective tenants to oversee these programs to insure that the use of these programs will be fully maximized as opposed to each tenant instituting its own program.

5.11 As noted in MBTA comments, the MBTA is in the process of implementing a campaign to encourage staggered work hours in an effort to maximize the use of the existing demand on the transit system during non-peak commuter periods. A staggered work hour plan should be included as mitigation for this project and documented in the FEIR along with a discussion on how tenants and employees will be encouraged to support and implement such a program.

5.12 As additional mitigation, the proponent should expand the proposed transportation demand strategies to include tenants and employees of the existing Lafayette Place Phase I development. The proponent should further expand these transportation demand strategies to include both existing and currently proposed retail developments in the Midtown District.

5.13 Other development projects in the area include Commonwealth Center and Kingston-Bedford developments. The proponent should work with these and other neighboring developers in regard to mitigation and transportation demand measures. It is important that the proponent devise a forum in which it can work with tenants and employees of the Lafayette Place Phase I development and other existing and proposed developers to encourage them to better utilize the MBTA
5.14 transportation system.

5.15 Prior to filing the FEIR, the proponent of the Boston Crossing project and neighboring developers should collectively discuss the possibility of forming a Tranportation Management Organization. A full discussion in this regard should be included in the FEIR. In addition, mitigation for each of the
5.16 development projects should be properly coordinated.

5.17 The proponent of the Commonwealth Center project is proposing a shuttle service from their site to Logan Airport. The proponent for Boston Crossing development should join with the proponent of the Commonwealth Center project in this regard to maximize the use of this service. The proponent should also encourage other hotels and interested developers to join in this program. This will serve as a great asset to tenants, employees, and building clients of developments in the area and will also serve as an alternative mode of transportion which will assist in reducing vehicle trips.

5.18 Finally, the proponent should discuss how the proposed and existing parking spaces fit under the current City of Boston Parking Freeze. Under the existing freeze, if these spaces are subject to hourly or daily charges then they would be included in the freeze and be subject to approval from the Air Pollution Control Commission of the City of Boston. A letter of determination from the City of Boston should accompany the FEIR as well as a table in the FEIR detailing which parking spaces are exempt and which are non-exempt.

5.19 9/8/89

5.1 Underground Transitway

Discussions between the proponent and the MBTA are ongoing on all project items affecting the MBTA's existing and proposed facilities. Conceptual agreement has been reached on the accommodations to be made in the project design to allow for and to enhance the ability to construct the future Transitway. Details will be developed during the project design process in close coordination with the MBTA and their representatives.

Developers of the Boston Crossing project support the proposed expansion of the MBTA system and have devoted resources to the design and engineering of MBTA facilities as the site and revised the design to allow the proposed improvements. Campeau and its team of architects, engineers, and construction managers have devoted considerable time and funding to the redesign of the Boston Crossing project to accommodate the future South Boston Piers Transitway proposal.

- Engineering, construction phasing, and design studies have tested numerous locations for the southernmost slurry wall of the project, along Hayward Place, to ensure that the MBTA's currently preferred alignment (Avery Street/Hayward Place/Avenue de Lafayette vs. Essex Street) is not impeded by Boston Crossing's parking garage. As a result of these negotiations, the slurry wall will be located several feet north of the existing property line, reducing the parking space count on the upper levels of the proposed garage by a total of approximately sixty spaces. At considerable expense, Campeau will make the parking garage deeper with a smaller floor plate to recover the lost spaces.

- Campeau's engineering and construction team is reviewing a slurry wall design with MBTA engineers which will accommodate future construction of the proposed South Boston Piers Transitway line and will serve as the northerly wall of the future Transitway station planned to be located beneath Hayward Place.

5.2 Plan of Improvements

Modifications to existing utility systems required to accommodate the proposed development of the Hayward Place parcel have been summarized in Chapter VIII, the Infrastructure Systems Component, Section 2.0. A plan is included as Appendix Q.

5.3 Connections to the Red Line

The developer plans to contribute to the improvement of the Summer Street Concourse and is developing plans for this area of the project site. The plans will incorporate existing facilities and proposed facilities included in existing agreements between the MBTA and abutters which have not yet been implemented. Design for this area is ongoing and will be coordinated closely with MBTA representatives.

5.4 Access to MBTA Stations

The developer is committed to maintaining functional, safe access to the MBTA facilities located adjacent to the Boston Crossing site at all times during construction. Details for the maintenance of access for each phase of construction will be developed in coordination with the MBTA in conjunction with the preparation of the project's Construction Management Plan.

5.5 MBTA Improvements

Campeau is committed to continue to work with the MBTA to review detailed plans for an emergency exit, ventilation requirements, and a future public entrance for the underground Transitway (the proposed South Boston Piers Transitway). Specifically, an emergency exit replacing the existing derelict facility for the Chinatown Station will be incorporated into the design of the Boston Crossing project. Subway emergency ventilation in the existing emergency exit facilities on Hayward Place will be accommodated in the new Bloomingdale's structure. Campeau and its engineers are working with MBTA engineers to identify opportunities for future expansion of the subway ventilation facilities. Chapter VI, the Urban Design Component, Section 2.2.1 includes a more detailed description.

5.6 Proposed Traffic Mitigation

The developer of the proposed Boston Crossing project is working with the City and with other developers in the downtown area to devise an overall mitigation and cost sharing plan.

The Draft Project Impact Reports and Draft Environmental Impact Reports for the three major projects proposed for the Midtown Cultural District, One Lincoln Street, Commonwealth Center, and Boston Crossing, propose the upgrade of ten intersections in and near Midtown. Several of these intersections require improvements specifically due to the incremental traffic added by the new projects (generally the Bedford Street/Avenue de Lafayette/Hayward Place/Avery Street corridor); others are existing problem intersections which will be made slightly worse by the additional traffic generated by the projects (Boylston/Essex corridor).

At the request of respondents to the DPIR/DEIRs of the three projects, the developers and their traffic consultants have coordinated their analyses and proposed mitigations for the FPIR/FEIRs. Working with the Boston Transportation Department, the three transportation consultants have coordinated their final reports to propose a uniform set of mitigating improvements to the ten intersections. The recommended improvements will mitigate the impact of the projects and achieve many of the benefits to traffic flow envisioned in the City's Midtown Cultural District traffic plan, including westbound traffic relief to reduce the burden on Chinatown.

All three developers and the City share the goal of seeing all intersections improved, and are working, through their Transportation Access Plans being developed with the Boston Transportation Department, to allocate the work equitably and ensure that each project may proceed. Table IV-28 in Section 8 of Chapter IV, the Transportation Component, of the FPIR/FEIR summarizes the proposed improvements, responsible agencies.

5.7 Improvements to Minimize Pedestrian and Vehicular Conflicts

A protected pedestrian phase or exclusive pedestrian phase was provided at every intersection in the study area to minimize pedestrian and vehicular conflicts. The analysis sheets included in the Transportation Appendix to the FPIR/FEIR indicate the intersections that have exclusive or protected pedestrian phases.

5.8 Boston Crossing Transportation Subsidy Programs

Since the tenant base at the proposed office space is unknown, it is not possible at this time to set definitive subsidy programs. However, through an agressive marketing plan, the project proponent will promote public transportation and its convenience to access the site. The proponent has already created a Transportation Management Association (TMA) which will continue to work to reduce the auto trips to the site. Some measures the proponent will promote through the TMA to prospective tenants include:

- o Employer contribution (partial or full) to MBTA passes;
- o Provision of T passes on-site;
- o Dissemination of MBTA schedules and maps at an on-site commuter information center; and
- o Direct connections from the project to the MBTA station.

5.9 Number of Parking Spaces Reserved for Carpools, Vanpools, Buspools

The proponent will make available approximately ten vanpool spaces and forty carpool spaces and bicycle racks for up to 40 bicycles in the new garage facility.

5.10 Transportation Coordinator

One goal of the Midtown Developers Transportation Management Association (MDTMA) is to work with the Boston Transportation Department to develop appropriate Commuter Mobility Programs (CMPs). Such programs will include having an on-site transportation coordinator for the Boston Crossing, Commonwealth Center, and One Lincoln Street projects.

5.11 Staggered Work Hour Plan

Currently in Boston, over 300 Boston area business use flex time and staggered work hours to spread peak demand on building facilities, streets, and mass transit. The project proponent will work with tenants of the proposed project to identify the employers that could incorporate flex time and staggered work hours into employees' work schedules.

5.12 Transportation Demand Strategies

The existing tenants of Lafayette Place and the Lafayette Hotel will be included in the MDTMA Transportation Demand Strategies (TDS). The MDTMA will work towards implementing appropriate TDS that reduce the number of single-occupancy vehicles travelling through the area during peak traffic periods. A more detailed description of the MDTMA is included in Section 5.8 of Chapter II, General Information, of the FPIR/FEIR.

5.13 - Transportation Management Association
5.16

The developers of the Boston Crossing project along with the developers of the Commonwealth Center and One Lincoln Street projects are forming a Midtown Developers Transportation Management Association to address transportation-related issues with regard to development and operation of the three projects. The MDTMA will work towards implementing appropriate Transportation Demand Strategies that reduce the number of single-occupancy vehicles travelling through the area during peak periods.

Transportation Demand Strategies will include coordinating a staggered work hour program, selling T-passes and tokens, and developing a commuter center with an on-site commuter ride-matching system. Although the number of existing tenants at Lafayette Place is small, the tenants and employees will be included in the Transportation Demand Strategies. A more detailed description of the MDTMA is included in Section 5.8 of Chapter II, General Information, of the FPIR/FEIR. A discussion of proposed traffic mitigation measures are included in Section 8.0 of the Transportation Component of the FPIR/FEIR. Proposed mitigation measures have been coordinated with developers of Boston Crossing, Commonwealth Center, One Lincoln Street and the Boston Transportation Department.

5.17 Shuttle Service to Logan Airport

There is an existing shuttle service that services the Lafayette Hotel and other downtown hotels. The project proponent will work with the existing shuttle service and the Commonwealth Center proponent to improve and increase the frequency of the shuttles. The project proponent will also work with Commonwealth Center to expand the service to include tenants and visitors of the proposed office space. Use of the shuttle

service will reduce vehicle trips to the airport and result in less traffic congestion. The proponent is also looking into ways to coordinate a shuttle service with the water shuttle to the airport to further reduce traffic congestion.

5.18 - Parking Freeze

5.19

Based on discussions with the Boston Transportation Department (BTD), there are ample non-exempt parking spaces in the parking bank established by the Boston Air Pollution Control Commission (BAPCC) to allow the additional of non-exempt parking. Discussions are still underway with the BTD and the BAPCC and the following table shows a proposed allocation of exempt and non-exempt spaces.

BOSTON CROSSING
NON-EXEMPT AND EXEMPT PARKING SPACES

	Spaces	Non-Exempt	Exempt
Existing Garage			
Lafayette Garage	1,024	100%	0
564-580 Washington Street*	125	100%	0
Proposed Additional Garage			
Hayward Place	Up to 1000	63%	37%

* These spaces will be reverted to the parking space bank upon construction of the Hayward Place garage.

6.0 RESPONSE TO TREMONT-ON-THE-COMMON

Letter from: Carol Thomas, Chairman Tremont-on-the-Common Condominium Trust

Dated: September 8, 1989

TREMONT
ON-THE-COMMON
151 TREMONT STREET • BOSTON, MASSACHUSETTS

RECEIVED
SEP 2 1 1989
MEPA

September 8, 1989

John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street - 20th floor
Boston, MA -02202-

Re: EOEA #6929
Boston Crossing
Draft Project and Environmental Impact Report

(6)

Dear Sir,

Tremont-on-the-Common ("TOC") is a high rise residential condominium located at 151 Tremont Street adjacent to the Boston Crossing project. The building consists of 374 units occupied by approximately 750 residents.

The Trustees, representatives of the TOC community, have had an opportunity to review the draft Environmental Impact Report and have the following major concerns regarding traffic:

6.1 * The report does not address the traffic congestion on Mason and West Streets. Both streets are crucial in providing twenty-four hour access to the building. The added congestion will compromise emergency services and cause further deterioration of air quality in the area.

6.2 * The LOS is reduced at Tremont and Avery Streets and Tremont and Boylston Streets resulting in significant delays for residents and for emergency services and vehicles.

6.3 * The proposed solution of extending the Washington Street pedestrian zone to block vehicular access to West Street will have considerable environmental impact. This proposal will require TOC residents to travel on Boylston, Charles, Beacon, Park and Tremont Streets - journey which can take as long as forty minutes during congested time periods. This will, or course, contribute substantially to the area's air quality problems.

6.4 6.5 * The West Street sidewalks are inadequate for the level of increased pedestrian traffic expected.

6.6 Finally, we believe that the report does not sufficiently address the impact of shadows on the city side half of our building.

We respectfully request that you take these issues under consideration when reviewing this project and in requesting mitigation measures.

Sincerely,

Carol Thomas
Chairman
Tremont-on-the-Common
Condominium Trust

6.1 Traffic Congestion on Mason and West Streets

The Boston Crossing project will have minimal impact on Mason and West Streets and at their intersection. Since the direction of Avery Street will be reversed, it will provide a shorter route to Tremont Street. The majority of traffic will therefore be rerouted from West Street onto Avery Street. Approximately 50-60 vehicles will continue to use West Street during the peak hours versus the approximately 250 vehicles that currently utilize West Street. Mason Street is one-way northbound (away from Avery Street), therefore, there will be no conflicts for vehicles turning into Mason Street. Traffic operations at the Mason Street/West Street intersection will be enhanced by the reduced traffic on West Street.

6.2 Tremont Street/Avery Street and Tremont Street/Boylston Street Intersections

The Tremont Street/Avery Street intersection will operate at LOS D for either of the roadway networks in a Build condition. The intersection of Tremont Street and Bolyston Street is currently operating at a deficient level of service. Proposed mitigation measures will improve this intersection. Even with build volumes, this mitigated intersection will operate at a better LOS in 1995 than today. The Traffic Relief Program (TRP) on Boylston Street will help decrease delays at the intersection.

6.3 - Extension of Auto-Restricted Zone

6.4

The Washington Street auto restricted zone is not going to be extended and will therefore not block vehicular access to West Street. The reversal of Avery Street will greatly reduce the vehicular volumes on Washington Street.

Based on comments from Tremont-on-the-Common residents, the BRA, and other interested neighbors, Campeau is no longer proposing to extend the current auto-restricted zone south of Temple Place.

Now under discussion with the BRA, the Boston Transportation Department (BTD), and the Public Works Department (PWD) is a revised, partially auto-restricted zone from the Avery Street/Washington Street intersection to Temple Place. Restrictions under consideration include limiting access only for two or three hours around lunch time. Automobiles participating in a sticker program, which would include residents of Tremont-on-the-Common and local businesses, as well as others by prior arrangement,

would be allowed access to Washington Street, West Street, and Temple Place at midday hours. Abutting developers, in conjunction with the Downtown Crossing Association, would provide special facilities and sponsorship for a police detail to direct traffic at the Hayward Place/Avery Street/Washington Street intersection, allowing enforcement of the midday auto restriction, and permitting passage by Tremont-on-the-Common residents and other authorized drivers.

If the BRA, the BTD, PWD, and abutters agree that Washington Street from Temple Place to Avery Street should be closed to automobiles during the midday peak, the proponent will support the proposal.

The partially auto-restricted zone described above, if pursued after additional study, will be implemented after further review with Tremont-on-the-Common residents, the Downtown Crossing Association, and other abutting property owners.

6.5 West Street Sidewalks

Boston Crossing will be generating only 107 pedestrian trips on West Street in the AM peak hour (less than 7 percent). The PM peak will generate 82 pedestrian trips (7 percent). These increased volumes will have a minimal impact.

6.6 Impact on East Side of Tremont on-the-Common

The Tremont-on-the-Common Trustees are concerned that the shadow analysis provided in the DPIR/DEIR did not sufficiently address the impact of shadows on the city-side half of its building. The shadow analysis prepared for the DPIR/DEIR according to the times requested by the BRA Scoping Determination described impacts upon public open spaces and major pedestrian areas, and on the facades of historic buildings. Further examination of the shadow impacts of the proposed project upon building facades in the surrounding area indicates that portions of the city-side facade of Tremont-on-the-Common will be shaded for less than two hours by the proposed 500 Washington Street building in the early morning hours during the spring and fall.

For example, on October 21 between 10:00 and 11:00 a.m., as the sun moves across the sky, shadow will fall on portions of the city-side of Tremont-on-the-Common. At 11:00 a.m., a small section at the northern edge of the city-side of Tremont on-the-Common, to a height of approximately three stories above the pool deck will be shaded by the proposed 500 Washington Street tower. By 12:00 Noon, this shadow has disappeared from the facade of Tremont-on-the-Common.

7.0 RESPONSE TO MASSACHUSETTS HISTORICAL COMMISSION (MHC)

Letters from: Valerie A. Talmage, Executive Director

Dated: June 23, 1989 and September 1, 1989

June 23, 1989

7

Carl Geupel
Campeau Massachusetts Inc.
One Avenue de Lafayetee
Boston, MA 02111

RE: Boston Crossing, Boston, MA

Dear Mr. Geupel:

Staff of the Massachusetts Historical Commission has reviewed the Project Notification Form and additional materials you submitted regarding the proposed project referenced above. The Boston Crossing project is located adjacent to or near multiple historic resources which are adequately identified in the Draft Project Impact Report submitted by the project proponent to the Boston Redevelopment Authority.

7.1 Following a review of these materials and after informational meetings with the project proponent, I have determined that the proposed project will have an adverse affect on the significant architectural and historical characteristics of the State and National Register districts through the introduction of visual elements that are out of character with the historic districts and their setting (36 CFR 800.9). MHC staff are concerned with the project's overall large scale and height, its design (massing, materials, and detailing) in relation to adjacent historic resources, and the effect of the two towers in casting shadows and in creating a "canyonization" of the historic Summer Street commercial corridor. The shadow issue is of special concern in regard to Boston Common, a National Historic Landmark. MHC staff request the opportunity to review more detailed plans for the project and to review the Boston Redevelopment Authority project model with a representative of the Boston Landmarks Commission in order to explore design solutions that might mitigate the project's impact on historic resources.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800) and M.G.L. c. 9, ss.26-27C, as amended by c. 254 of the Acts of 1988 (950 CMR 71.00).

Massachusetts Historical Commission, Valerie A. Talmage, *Executive Director, State Historic Preservation Officer*
80 Boylston Street, Boston, Massachusetts 02116. (617) 727-8470

Office of the Secretary of State, Michael J. Connolly, *Secretary*

If you have any questions, please feel free to contact Allen Johnson or Herb Regal of this office.

Sincerely,

Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

VAT/ls

cc: Boston Landmarks Commission
Boston Preservation Alliance
Boston Redevelopment Authority
Advisory Council on Historic Preservation

September 1, 1989

Carl Geupel
Campeau Massachusetts, Inc.
One Avenue de Lafayette
Boston, MA 02111

RE: Boston Crossing, Boston, MA

Dear Mr. Geupel:

Thank you for the opportunity to meet with you, Karen Altshuler of SOM, and Homer Russell of the Boston Redevelopment Authority to review plans for the Boston Crossing project and to view the BRA project model of the proposed development. The meeting helped to clarify what effects the project may have on historic resources. The meeting also served to update us on the design changes made to the project in response to the Massachusetts Historical Commission's earlier determination that the project would have an adverse affect on the character of the adjacent historic districts.

As we discussed, the current project changes are very responsive to MHC's earlier concerns with the massing, height, and design of the complex and it appears the project team has worked hard to address and satisfy a variety of community concerns including preservation issues. The potential shadow effect of the towers on the Boston Common has been reduced through the shortening of the Bloomingdale's tower by three stories and the repositioning of the Jordan Marsh tower closer to the interior of the block. The relocation of the latter tower also reduces the potential "canyonization" of the historic Summer Street commercial corridor. There is still concern, however, that the close positioning of the Bloomingdale's tower with the adjacent towers of the proposed Commonwealth Center project will "squeeze" the Opera House and create a similar canyon effect on Washington Street.

The new treatment of the project's Washington Street facade has successfully addressed MHC's earlier concerns by breaking up the massing of the elevation through the introduction of numerous entrances, store windows, awnings, etc.

We continue to recommend alternatives be considered which would create additional variety on this elevation through the use of differing cornice heights and building widths.

Thank you again for the opportunity to meet with you. We look forward to reviewing the Final Environmental Impact Report on this project.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), M.G.L. Ch. 9, ss. 26-27c, as amended by Ch. 254 of the Acts of 1988 (950 CMR 71.00) and MEPA.

If you have questions, please feel free to contact me or Allen Johnson of this office.

Sincerely,

for Brona Simon DSHPO
Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

VAT/jd

cc: Boston Preservation Alliance
Boston Landmarks Commission
Boston Redevelopment Authority
Advisory Council on Historic Preservation

7.1 MHC Concerns

The Massachusetts Historical Commission (MHC) letter dated June 23 included comments on the DPIR/DEIR design, which has subsequently been modified in response to comments from various agencies and interest groups. MHC was concerned with the project's overall scale and height, massing, materials and details, and shadows resulting from the configuration of the two towers.

Letter of September 1, 1989

Since the submission of the June letter, MHC has had an opportunity to meet with the project proponent, BRA staff, and project architects, and has received clarification as to the effects the project may have on historic resources. The MHC thereafter submitted the letter dated September 1, 1989 which stated that project changes were very responsive to MHC's earlier concerns with the massing, height, and design of the complex and indicated that the new design satisfied many of MHC's earlier concerns with respect to preservation issues. MHC's remaining concerns include positioning of the Bloomingdale's tower in the context of the Commonwealth Center towers, and variety of detailing of the Washington Street facades. Responses to these concerns are included in the FPIR/FEIR Historic Resources Component, Chapter VII.

8.0 RESPONSE TO DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF AIR QUALITY CONTROL

Letter from: Gary Idleburg, Division of Air Quality Control

Dated: September 8, 1989

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street, Boston 02108

DANIEL S. GREENBAUM
Commissioner

RECEIVED
SEP 8 1989
MEPA

8

MEMORANDUM

TO: Secretary DeVillars, Executive Office of Environmental Affairs

ATTN: Nancy Baker - MEPA Unit

THRU: Christine Kirby - Division of Air Quality Control

FROM: Gary Idleburg - Division of Air Quality Control

DATE: September 8, 1989

SUBJECT: EOEA #6929 - Boston Crossing - Boston, Massachusetts

The Division of Air Quality Control (DAQC) has received and reviewed the Draft Environmental Impact Report. Based on this review, the DAQC offers the following comments:

1) The proponent has consulted with the DAQC to establish inputs and parameters for an air quality analysis.

8.1 2) According to the summary of air quality analysis, there are several exceedances of National Ambient Air Quality Standards (NAAQS) for carbon monoxide. After mitigation is performed for the "build phase" of the project ("Revised Network"), two exceedances of NAAQS remain, at the intersections of Washington/Boylston Streets (8.6 ppm) and Boylston/Tremont Streets (9.6 ppm). The DAQC considers results above 8.5 to be exceedances due to the possibility of modeling variability.

8.2 3) Although it appears that the Boston Crossing project (with mitigation measures) will not aggravate existing exceedances of NAAQS, DAQC is concerned that even with very commendable efforts at mitigation, air quality exceedances still remain.

8.3 According to the 1982 State Implementation Plan (SIP), Boston, Massachusetts is considered to be in "non-attainment" status of NAAQS for carbon monoxide. Continued efforts should be made by Boston with the State and appropriate Metropolitan Planning Organizations to develop and implement Reasonable Available Control Measures in order to achieve compliance with NAAQS as soon as possible.

If you have any questions, please call Gary Idleburg at 556-1032.

CK:GI:yw
cc: James Neely - DAQC, Boston Office
DAQC, Northeast Region
Boston Redevelopment Authority

100% Recycled Paper

8.1 Exceedances of NAAQS

The proponent is committed to working with the City to improve air quality conditions at congested traffic intersections. As noted in the DPIR and DEIR, due to the conservativeness of the assumptions used, the CO levels are worst case predictions. Actual CO levels are expected to be lower. In addition, improvements of the Essex Street corridor were not quantified but would be expected to improve air quality as well.

8.2 Air Quality of No-Build Conditions

The proponent will continue to work with the City and other developers on the traffic and air quality problems in the project area.

8.3 Reasonable Available Control Measures

Development of the proposed Boston Crossing project will not preclude implementation of reasonable available control measures.

9.0 RESPONSE TO U.S. DEPARTMENT OF TRANSPORTATION

Letter from: John C. Silva, Environmental Program Manager

Dated: August 15, 1989

US Department
of Transportation
Federal Aviation
Administration

New England Region

12 New England Executive Park
Burlington, Massachusetts 01803

AUG 15 1989

9

Secretary of Environmental Affairs
20th Floor
100 Cambridge Street
Boston, Massachusetts 02202

ATTN: MEPA Unit; EOEA No. 6929

Dear MEPA Reviewer:

9.1 We have reviewed the Draft Environmental Impact Report for the Boston Crossing project proposed by Campeau Massachusetts, Inc. We note that the proposed height is 438 feet and that the proponent plans to file a Notice of Proposed Construction in September. We will reserve our opinion on the aeronautical effect of the project until after we have received and studied the proposal. Thank you for the opportunity to comment.

Sincerely,

John C. Silva

John C. Silva
Environmental Program Manager

9.1 Notice of Proposed Construction

Campeau plans to file a Notice of Proposed Construction during the first quarter of 1990.

10.0 RESPONSE TO MASSACHUSETTS WATER RESOURCES AUTHORITY

Letter from: Katina Belezos, Project Engineer

Dated: September 6, 1989

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

Telephone
(617) 242-6000

10

Board of Directors
John P. DeVillars, Chairman
John J. Carroll
Robert J. Ciolek
William A. Darity
Lorraine M. Downey
Anthony V. Fletcher
Charles Lyons
Joseph A. MacRitchie
Samuel G. Mygatt
Thomas E. Reilly, Jr.
Walter J. Ryan, Jr.

Executive Director
Paul F. Levy

September 6, 1989

RECEIVED
SEP 8 1989
MEPA

John P. DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202
Attn: MEPA Unit

Re: EOEA No. 6929-Boston Crossing DEIR, Boston

Dear Secretary DeVillars:

Concerning the above-referenced Draft Environmental Impact Report (DEIR) we submit the following comments:

10.1 The proposed project will significantly increase wastewater flows to the Boston and MWRA Sewer Systems, which are currently experiencing capacity problems, especially during wet weather periods.

10.2 Has the proponent conducted an hydraulic analysis to determine whether or not sufficient capacity exists in the local receiving sewer to accommodate this project's flows along with other tributary flows? Is the receiving
10.3 sewer part of a combined sewer system? If so, does the proponent have a proposal regarding combined sewer separation? At a minimum, sanitary and storm flows from the proposed project should be conveyed separately as far
10.4 as possible.

In order to minimize the wastewater flow from this project, it is important that water saving devices and processes be incorporated into project designs. A water conservation plan for this project should include the following elements as well as any additional facility-specific water saving techniques:

10.5.1 o Heating and Cooling
The building heating and air conditioning equipment should be air cooled rather than water cooled. Where water cooling is necessary the system should be closed loop.

10.5.2 o Sanitary Use
Restrooms should be equipped with water saving fixtures such as faucet aerators that use 2.0 gallons per minute or less and spring loaded or time valves.

10.5.3 o Landscaping
Landscaping should emphasize the use of water efficient plantings, and minimize turf areas.

10.5.4 o Kitchen/Cafeteria Areas
Kitchen and Cafeteria areas should incorporate water saving techniques and equipment.

We appreciate the opportunity to comment. Should you have any questions, please do not hesitate to call me at 242-0230 X4804.

Very truly yours,

Katina N. Belezos
Project Engineer
Planning Program
Wastewater Engineering

KNB/gmc:416

10.1 Wastewater Flows

A description of wastewater flows and a capacity analysis is included in Chapter VIII, Infrastructure Systems Component, Section 3.0 of the FPIR/FEIR.

10.2 Sewer System Capacity

The existing combined sewer system has adequate capacity to accept the additional sanitary discharge of the proposed Boston Crossing project as well as that of the future full area wide build-out of other projects in the contributing areas. The proposed project, along with future full area-wide build-out, will not affect the sewer system's ability to accept the existing flows discharged to the system. A capacity analysis is included in Chapter VIII, Infrastructure Systems Component, Section 3.0.

10.3 Combined Sewer System

The existing sewer systems servicing the proposed project area are combined sewers collecting both sanitary sewage and storm drainage flows. They carry these flows to the recently constructed East Side Interceptor located in Atlantic Avenue.

10.4 Combined Sewer Separation

The project's sanitary sewage and storm drainage systems will be completely separated on-site. A separate storm drainage system, designed to service this site and others in the area, is presently being evaluated in conjunction with the BWSC. If this system is constructed, all technically feasible project storm drainage flows will be discharged separately to this facility. A description of the separated sewer system is included in Section 4.0 of Chapter VIII, the Infrastructure Systems Component.

10.5 Water Conservation Plan

Section 6.0 of the Infrastructure Component includes a description of air-cooled equipment and water-cooled equipment. It is too early to tell at this time the particular water-saving fixtures for restrooms and kitchen and cafeteria areas. Such details will not

be determined until the tenants are known. The developers of Boston Crossing will investigate water saving devices for incorporation in the project depending on economic feasibility. One possible conservation measure is to conserve on steam condensate by reinjecting it into the building's cooling tower system.

Any trees, shrubs, or perennial plantings used at Boston Crossing will emphasize water efficient plantings. In addition, turf is not being contemplated for inclusion in the project.

11.0 RESPONSE TO CITY OF BOSTON, THE ENVIRONMENT DEPARTMENT

Letter from: L.M. Downey, Director

Dated: September 8, 1989

City of Boston
The Environment Department

September 8, 1989

RECEIVED
SEP 8 1989
MEPA

Mr. John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Fl.
Boston, MA. 02202

ATTN: MEPA Unit, Nancy Baker, EOEA #6929, Boston Crossing Draft Environmental Impact Report.

11

Dear Secretary DeVillars:

The City of Boston Environment Department has reviewed the Boston Crossing Draft Environmental Impact Report and would like to submit the following comments:

11.1 1. In Section 3.2, it states that "the project has an ideal location with respect to public transportation." Yet, the document also predicts a relatively high vehicle usage. We would agree with the proponent that the site is well situated with respect to public transit and therefore feel that they should look at reducing the number of parking spaces

11.2 in the garage. Both employees and shoppers should be strongly encouraged to take public transit, especially in light of the 8 hour CO exceedances. Specifically, work related trips should be targeted for reduction because of the predictability of the trip and the fact that it occurs during peak hours. The Boston Air Pollution Control Commission will be looking for this information when the project comes before them for a

11.3 permit.

11.4 There should be a strong commitment to have an on-site property manager to facilitate building wide ridesharing and van pooling and to assist the tenants in educating their employees and promoting the program. In the future perhaps this type of program in the Boston Crossing project and the Commonwealth Center project could be coordinated, aided by a joint computer data base, to provide even more opportunities

11.5 for ride matching.

11.6 This type of evaluation is critical to reducing local concentrations of CO and NOx and regional levels of ozone, since a major source of these pollutants in the City are caused by vehicles driven by commuters during peak hours. We must begin to reduce vehicle miles traveled by reducing the number of cars driving the long distances from the suburbs into Boston.

11.7 In addition, a rate structure should be developed for the garage that discourages long-term parking.

11.8 3. In the information about air quality in Table V-12 there is information that looks at air quality with and without the project in 1995 and with and without traffic management measures in 1995. Although the 8 hour CO NAAQS is exceeded in three locations and some of the 1 hour peak standards are slightly below the maximum allowable levels, what happens to these numbers when this project and the traffic generated by the Commonwealth Center project are added together.

11.9 It is clearly not the sole responsibility of this proponent to determine this and if necessary to mitigate serious exceedances, but it is something that should be considered. These two projects are near each other and are generating a large amount of traffic in an urban area that already feels the effects of elevated levels of CO and Ozone. These numbers should be generated and if there appears to be a problem, the two projects should be required to work together to reduce traffic to their projects and with the City's Transportation Department to implement the traffic management measures outlined in the documents.

11.10 3. In the description of construction hours, it states that there will be construction from 7 a.m. to 11 p.m. and sometimes on Saturday's. Work on weekdays after 6 p.m. and on Saturday's is prohibited by the City of Boston Noise Regulations without written approval from the Building Commissioner.

11.11 4. The increase in development results in higher energy use. As we know, energy use and its production are causing such problems in our environment as reduction of stratospheric ozone and the creation of ground level ozone. Therefore, I encourage the proponent to look beyond the energy code and aggressively employ energy conservation methods in this new development. Areas in which to consider conservation measures include the heating and ventilating system, and lighting. The use of freon in any of these systems should be avoided.

11.12 5. Recycling within the development is mentioned, but not detailed. There should be a commitment by the developer that recycling will be instituted to the maximum extent possible and details of this should be in the final report. We will be asking this of other developments.

11.13 6. The project proponent has conducted the initial research requested to determine the archaeological potential of the project area. It would be helpful, however, if the information presented in Section 4.0 of the Historic Resources Component could be presented in plan form.

11.14 7. Based on the shadow analysis, I feel there should be a scaled down or reconfigured alternative that eliminates any new shadow on the Boston Common.

11.15 In addition, if Commonwealth Center is not built, then the assessment of the shadow impacts on the Common would be even greater as a result of this project. These effects should be described in the final document.

11.16 8. As mitigation for the large numbers of people that this project is bringing to the area, the proponent should evaluate the feasibility of creating or rehabilitating open space on or near the site. This would provide much needed open space for the shoppers and employees of the building as well as for Chinatown residents.

This EIR is well prepared and it appears that the proponent is prepared to mitigate many of the adverse effects of the project. I look forward to more of the same level of explanation and detail in the final report, especially with respect to the issues outlined above. I appreciate the opportunity to comment.

Sincerely,

L. M. Downey, Director

LMD/DKB

11.1 - Reduced Auto Trips
11.3

The high vehicle usage forecast in the Boston Crossing DPIR and DEIR reflects standards developd with the Boston Transportation Department (BTD) aimed to test "worst case" traffic scenarios. Boston Crossing hopes to improve the transit share of the project's modal split. The Midtown Developers Transportation Management Association (MDTMA) will work to promote transit use rather than automobile use. In addition to providing a total number of parking spaces well below incremental demand (875 net new spaces), the parking rate of the garage will be structured to discourage commuter trips and encourage short-term parking for the more desirable non-exempt spaces located closer to the garage entrance. Garage management programs and rate structures will be developed as part of the Transportation Access Plan and Parking Freeze permit application.

11.4 - On-Site Person to Facilitate Building-Wide Ridesharing and Carpooling
11.6

The Boston Crossing representative to the MDTMA will facilitate building-wide and area-wide ridesharing and carpooling. One goal of the MDTMA is to develop appropriate Commuter Mobility Programs (CMPs). Such programs will include having a transportation coordinator on-site for the Boston Crossing, Commonwealth Center, and One Lincoln Street projects, developing a ride-sharing database, and encouraging car and vanpooling. A commuter center with an on-site commuter ride-matching system is one of the Transportation Demand Strategies the MDTMA will work towards implementing. Section 5.8 of Chapter II, General Information of the FPIR/FEIR includes a more detailed description of the MDTMA.

11.7 Rate Structure

A rate structure for the parking garage that will encourage non-commuter, short-term parking is being prepared by the developer for all non-exempt spaces, and desirable spaces located closer to the garage entrance.

11.8 Combination of Proposed Boston Crossing and Commonwealth Center Projects in Air Quality Analysis

As requested by the Scoping Determination issued by the BRA, traffic generated by the proposed Commonwealth Center project was considered in the traffic and air quality analyses.

11.9 Coordination Between the Boston Transportation Department, Boston Crossing, and Commonwealth Center

The developers of the proposed Boston Crossing and Commonwealth Center projects are working together to coordinate traffic generated from the two projects during construction and operation and plan to form a Midtown Developers Transportation Management Association. Proposed measures are described in Chapter II, General Information, Section 5.6. The MDTMA, which also includes the One Lincoln Street project, is being coordinated with the Boston Transportation Department (BTD) as part of the Transportation Access Plans being developed for the three projects.

11.10 City of Boston Noise Regulations

The contractor for the proposed Boston Crossing project is planning to seek approval from the Building Commissioner to allow construction on Saturdays and after 6:00 PM on weekdays. It is anticipated that the only prolonged construction activity at night will be steel raising. Steel raising is done at night to ensure pedestrian safety.

11.11 Energy Conservation Methods

Energy conservation methods incorporated into the Boston Crossing project will be consistent with the State Building Code and the Energy Code. Several central HVAC plant schemes have been evaluated and one will be chosen based on a variety of factors including economic feasibility and energy efficiency.

11.12 Recycling

The use of steam condensate for cooling tower make-up has been evaluated and will be implemented in the project design if feasible. In addition, air cooled and closed loop water cooled equipment have each been evaluated for use in the proposed project. For a facility of this size, use of these types of equipment are often not feasible. Both air cooled and closed loop equipment would require more roof area than will be available, would be unsightly, and would result in greatly increased energy demands.

Other conservation measures will be considered, however, and evaluated based on the actual degree of conservation afforded and other concerns.

In addition, developers of Boston Crossing are planning to have space to provide an additional trash compactor to allow for garbage separation. Section 3.3 of Chapter V, Environmental Protection Component, includes a more detailed description of the commitment to recycling operational waste.

11.13 Archaeology

More detailed information regarding the archaeological potential of the project area will be provided in a later phase of design. The project proponent will continue to work with the City Archaeologist to identify any areas slated for excavation that contain previously undisturbed soils and to work out an evaluation plan for any such areas.

Since publications of the DPIR and DEIR, it has been determined that site excavation of areas that may have been previously undisturbed will be limited to extending the basement of the proposed 500 Washington Street building to the southermost property line and extending the basement to the center line of Harrison Avenue Extension. No excavation will occur beneath Hayward Place. Relocation of utilities will occur along Hayward Place and Harrison Avenue Extension. Construction of a slurry wall to bedrock (approximately 100 feet below the street surface) will occur only along Harrison Avenue Extension. Figure X-1 illustrates the limits of excavation at the southernmost end of the site. Included also are selected site plans showing land uses on the property since the mid-1800's as shown on Figure X-2.

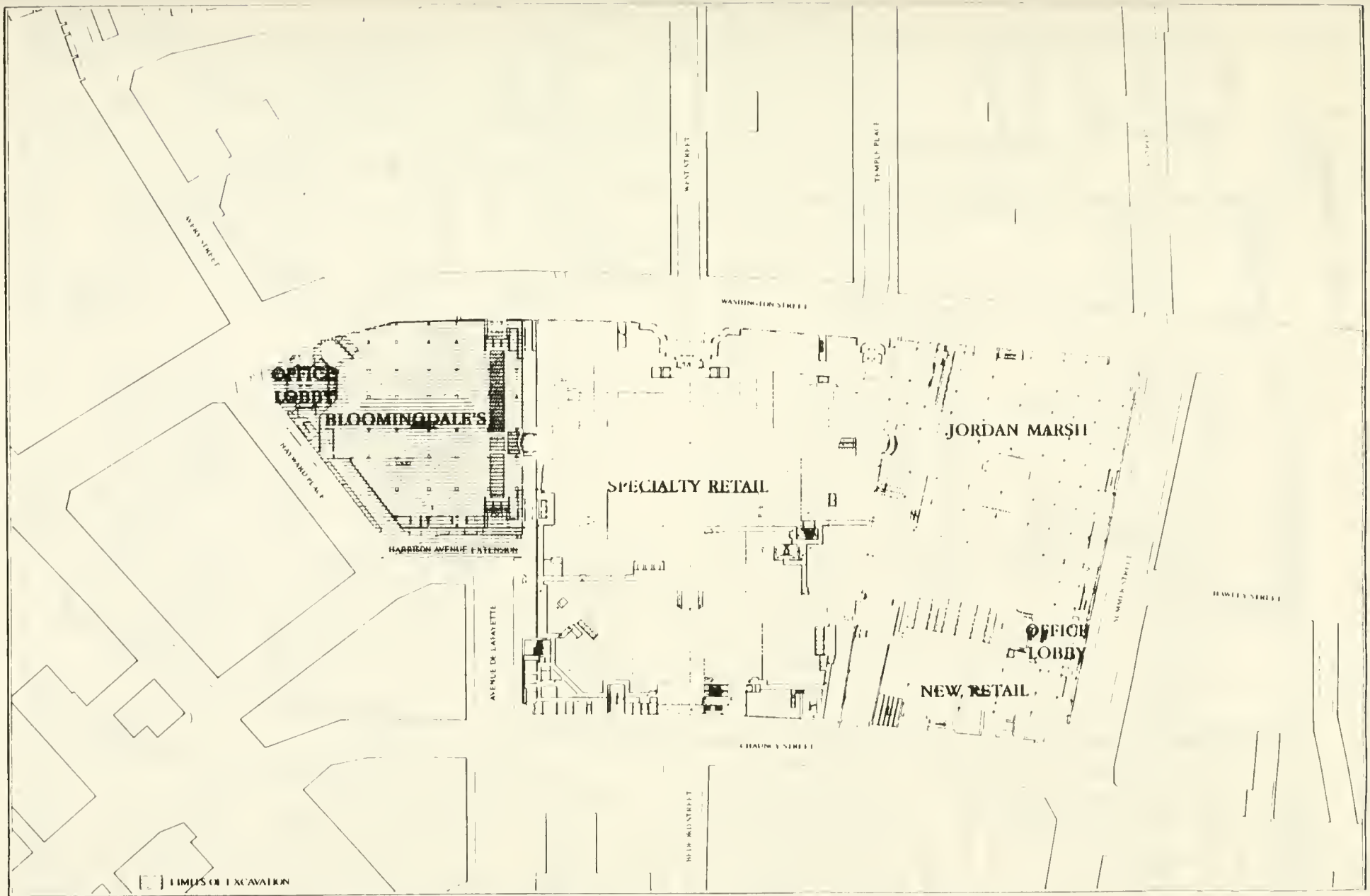


FIGURE X-1 LIMITS OF EXCAVATION AT SOUTHERN PORTION OF BOSTON CROSSING SITE

BOSTON CROSSING

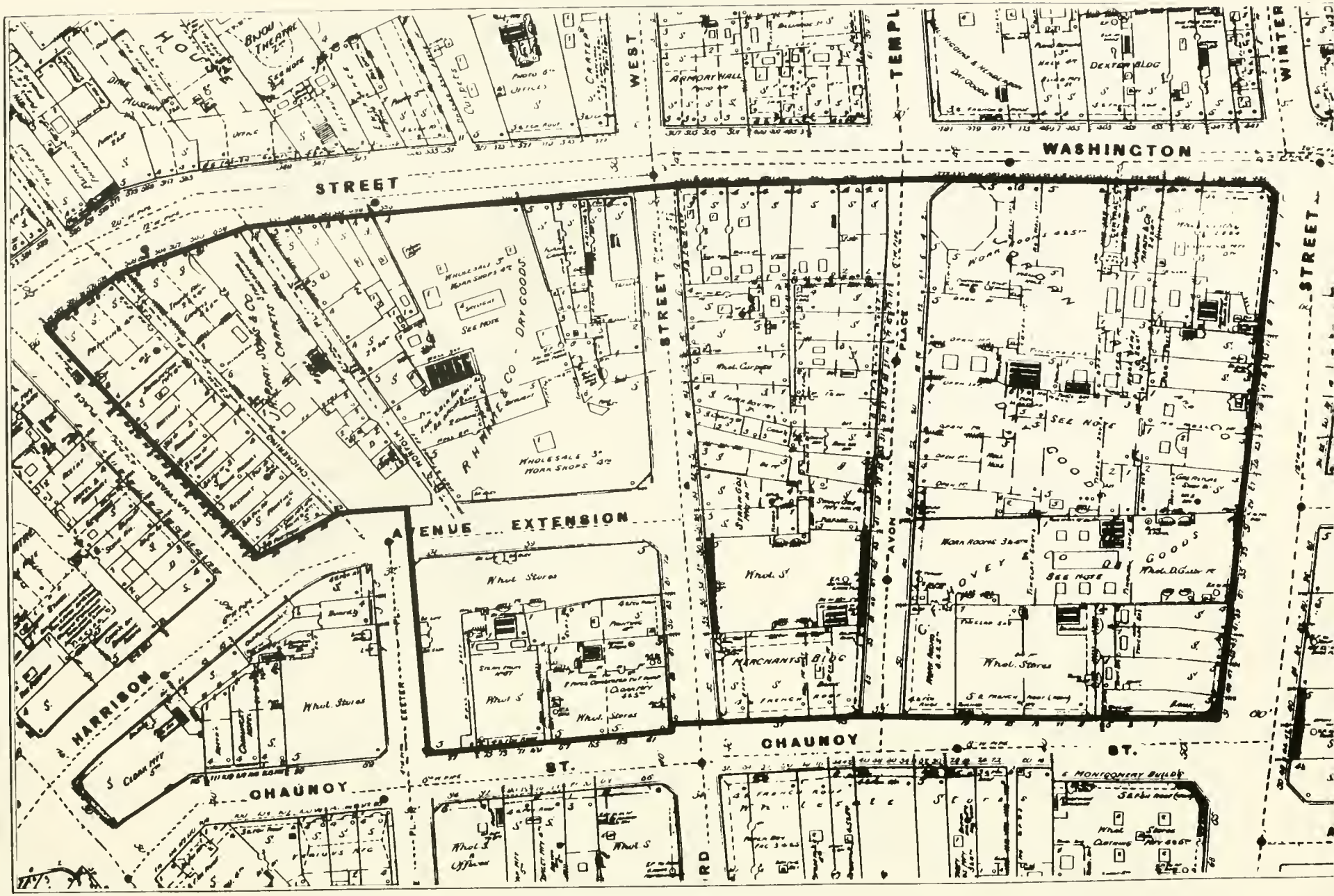


FIGURE X-2 HISTORIC SITE MAP, 1885-1888

11.14 Scaled-down or Reconfigured Alternative that Eliminates Any New Shadow on Boston Common

Since publication of the DPIR and DEIR, the proposed project has been reconfigured, as is described in detail in the Urban Design Component of the FPIR/FEIR. The modified design will not entirely eliminate shadows on the Boston Common; however, with the new design, considerably less shadow will be added to the Common during the early morning hours as compared to the earlier scheme. This reconfiguration will result in fewer days of the year when shadow reaches the Common and reduced shadow on the days when it does touch the Common. The building design continues to comply with the Midtown Cultural District Zoning with respect to criteria for sensitive areas. A more detailed shadow analysis is included in Section 2.0 of Chapter V, the Environmental Protection Component.

An as-of-right alternative was analyzed in the DPIR and DEIR at a height of 155' which cast no shadows on the Common. As was shown in the DPIR and DEIR, in the midday shopping hours on March 21, September 21 and October 21, the shadow analysis shows the proposed project design results in more sunlight at Downtown Crossing than the as-of-right scheme.

11.15 Shadow

The shadow impact analysis prepared for the DPIR/DEIR in response to scoping requirements of MEPA and the BRA indicated that the analysis must include proposed projects in the vicinity scheduled to be completed by 1995. The Commonwealth Center project was one of seven projects included in the list of projects to be evaluated.

The shadow impact analysis clearly indicated the times of day and year in which the proposed Boston Crossing project would cast shadow on the Common beyond that shadow cast by the proposed Commonwealth Center project. Changes in the project design since the DPIR/DEIR have served to reduce both the height and bulk of the tower closest to the Boston Common and move the concentration of tower space away from the Common. Not only are zoning requirements satisfied, but total shadow on the Common is reduced.

If the Commonwealth Center project is not built, there would be less total shadow on the Common, since there would be only two towers (Boston Crossing) instead of four towers (Boston Crossing and Commonwealth Center) casting shadow on the Common. Boston Crossing casts 1.14% of the combined shadows of the two projects on the Common on October 21.

11.16 Open Space On or Near the Site

Proposals for provision of outdoor public space are described in the Urban Design Component Sections 2.3.1 and 2.3.2. The project proponents have agreed to contribute $247,500 over a period of 33 years to the Parks Department to compensate for increased usage of the Common by visitors and employees of Boston Crossing.

12.0 RESPONSE TO THE BOSTON WATER AND SEWER COMMISSION

Letter from: John P. Sullivan, Jr., P.E., Chief Engineer

Dated: September 8, 1989

Boston Water and Sewer Commission

425 Summer Street
Boston, MA 02210-1700
617-330-9400
Fax 617-330-8157

SEP 14

MEPA

September 8, 1989

(12)

Secretary John P. DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street 20th Floor
Boston, MA 02202

Attention: MEPA Unit

Re: Boston Crossing
Draft Environmental Impact Report, EOEA #6929

Dear Secretary DeVillars:

The Commission has reviewed the Draft Environmental Impact Report submitted for Boston Crossing. Our specific concerns which must be addressed in the Final Environmental Impact Report follow

12.1 1. Discuss the coordination with the Commonwealth Center and Kingston/Bedford projects concerning separation of sanitary and stormwater flows on Essex Street. Clearly define the limits of separation assumed by each project.

12.2 Assess separation with consideration of the Massachusetts Water Resources Authority draft Combined Sewer Overflow Facilities Plan which is expected in December 1989.

12.3 3. Provide a plan showing proposed water, sewer and drain connections. Discuss how the locations of these connections mitigate the impact of this project.

12.4 4. Provide a plan showing any water, sewer or drain lines or connections to be abandoned.

12.5 5. Evaluate the reuse of steam condensate within the project or its return to the Boston Thermal Energy Corporation.

12.6 6. Evaluate fire service for the entire project using southern high service water lines.

12.7 7. Domestic service for the entire project (all phases) should be served by southern low service water lines.

12.8 8. The 12-inch high pressure fire service water main in Chauncy Street between Summer Street and Avenue De Lafayette (Figure VIII-3) should indicate a 16-inch main, not a 12-inch as shown.

12.9 9. The 12-inch low service water line must be be installed in Chauncy Street, connecting the 12-inch low service in Summer Street to the 12-inch low service line in Chauncy Street at Bedford Street.

12.10 10. A high service hydrant is requested at the intersection of Washington Street and Avenue De Lafayette to replace the hydrant eliminated by the proposed abandonment of the 12-inch high service main on Avenue De Lafayette.

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan Jr., P.E.
Chief Engineer

JPS/PK/mo

cc: Carl Geupel, Campeau Massachusetts, Inc.
Andrew Boyd, PBQ&D
Richard Mertens, BRA

12.1 Separation of Sanitary and Stormwater Flows

The feasibility of implementing a separate storm drainage system that will service the proposed sites of the three projects is presently being evaluated in conjunction with the BWSC. If and when a feasible system is developed, an agreement on its implementation will be developed by the proponents and the BWSC.

12.2 MWRA's Combined Sewer Overflow Facilities Plan

The MWRA's Combined Sewer Overflow Facilities Plan is not presently available. A draft of this plan is scheduled to be made available for review in January 1990 with a final version completed in mid-1990. All systems to service this project will be developed in close coordination with BWSC and MWRA staff. It is anticipated that they will be cognizant of the findings included in this plan and will assure that any new facilities will serve to aid in the implementation of its recommendations.

12.3 Proposed Water, Sewer, or Drain Connections

Final service connection locations for the proposed project have not yet been developed. They are being developed in close coordination with BWSC and are dependent to a great extent on the final configuration of the servicing systems located adjacent to the site. The configurations of these systems are the subject of ongoing discussions with the BWSC. These connections will be located on a site plan filed with the BWSC for approval prior to the issuance of a building permit.

12.4 Proposed Water, Sewer, or Drain Lines or Connections to be Abandoned

Any existing site service conditions that are to be abandoned will be shown on the site plan filed with the BWSC for approval prior to the issuance of a building permit.

12.5 Reuse of Steam Condensate

The BTEC steam system does not presently have a methodology in place that will allow them to accept the return of condensate for reuse in steam generation. On-site use of steam condensate for make-up water in the air conditioning system has been evaluated and will be implemented in the project design if technically feasible.

12.6 Fire Service

On-site fire-fighting systems will be supplied exclusively from service connections to the Southern High Service water system. Details will be developed during the normal design process, with service locations shown on the BWSC required site plan.

12.7 Southern Low Service

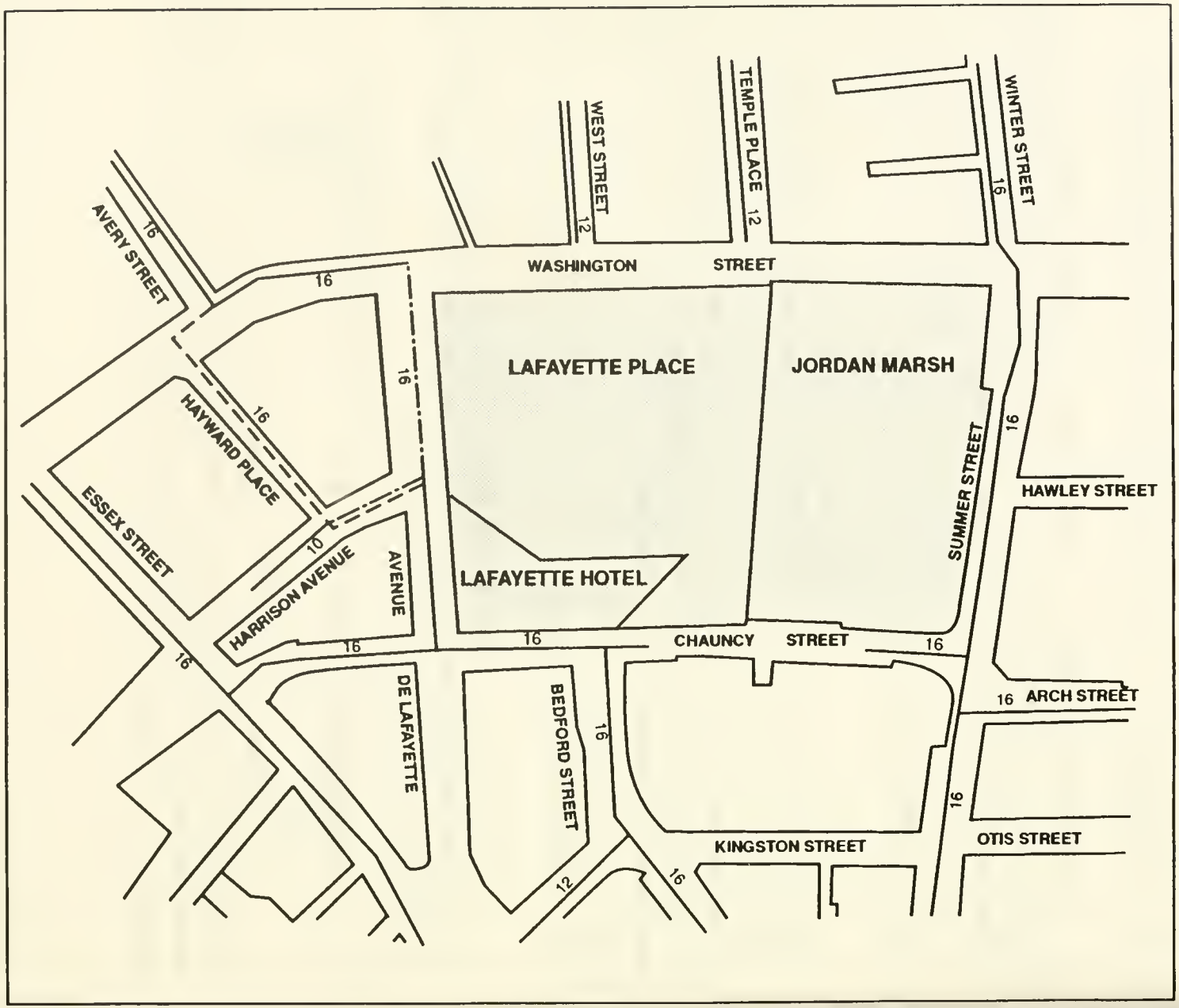
The ability to supply domestic water service to the entire site from the Southern Low Service (SLS) system has been evaluated. This will require the construction of new water lines adjacent to the site because the SLS system previously servicing this area was abandoned by the BWSC. Location of the required new lines and details of service connections will be developed as the project design progresses and will be included on the site plan submitted to the BWSC for approval.

12.8 High Pressure Fire Service

The BWSC High Pressure Fire Service (HPFS) Water Distribution System Map indicates that the HPFS line between Summer Street and Avenue de Lafayette is 16 inches in diameter. Figure X-3 shows the revised diameter.

12.9 Low Service Water Line

In connection with the BWSC request that the domestic water service for the entire project be from SLS system (see comment 12.7 above), this line will be required to service the project. Details of its location and design are being developed and will be submitted to the BWSC in conjunction with the project site plan.



BOSTON CROSSING

FIGURE X-3
High Pressure Fire Service in the Project Vicinity

LEGEND

Existing to Remain

Existing to be Removed

Proposed Addition

12
Distribution Line Size

0 100 200
SCALE IN FEET

HMM ASSOCIATES, INC.

12.10 High Service Hydrant

Locations of all fire hydrants around the project site are being coordinated with the Boston Fire Department in conjunction with the overall fire-fighting systems design for the project. Locations of and details for these hydrants will be included in the project site plan submittal to the BWSC for their approval.

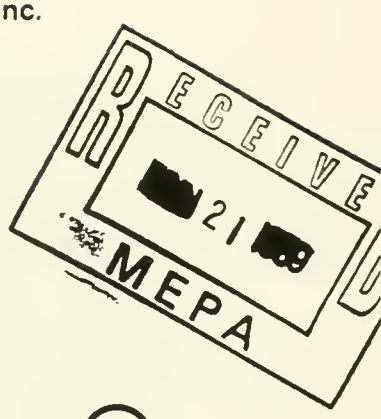
13.0 RESPONSE TO CONSERVATION LAW FOUNDATION

Letter from: Andrew Hamilton, Staff Scientist

Dated: June 21, 1989

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497
(617) 742-2540
Fax. (617) 523-8019



June 21, 1989

13

Steve Davis
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Re: Comments of the Conservation Law Foundation on the Draft Environmental Impact Reports for the Commonwealth Center (#7113), Boston Crossing (#6929), and Kingston-Bedford-Essex Street (#6132) projects

Dear Mr. Davis,

The Conservation Law Foundation (CLF) has reviewed the above named documents and submits the following comments. We are aware that the deadlines for submission of comments with respect to these documents has passed. Nevertheless, We urge that, to the degree possible, these comments be incorporated into the environmental review for these projects. Our comments are general in nature and pertain to all three documents.

13.1 The most important observation from an environmental perspective is that all three documents lack analysis of regional transportation impacts and air quality impacts pertaining to tropospheric (ground-level) ozone, as required under the Clean Air Act.[1] Although the Boston Redevelopment Authority's project, the Kingston-Bedford-Essex Street development, fails in these regards, with respect to regional traffic impacts the Draft Environmental Impact Report (EIR) for that project states (at 17)

> [t]he evaluation of this project demonstrates the necessity for a close examination of the traffic needs in a wider area. Some type of traffic master planning action is required for the proper comprehension of the cumulative traffic needs, coordinated with the

---

[1]Massachusetts State Implementation Plan (SIP) for Ozone and Carbon Monoxide, at 195 (1982).

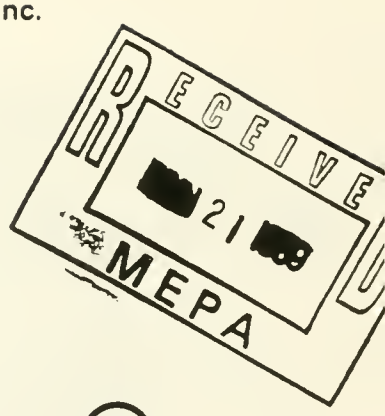
13.0 RESPONSE TO CONSERVATION LAW FOUNDATION

Letter from: Andrew Hamilton, Staff Scientist

Dated: June 21, 1989

CLF Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497
(617) 742-2540
Fax: (617) 523-8019



June 21, 1989

13

Steve Davis
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Re: Comments of the Conservation Law Foundation on the Draft Environmental Impact Reports for the Commonwealth Center (#7113), Boston Crossing (#6929), and Kingston-Bedford-Essex Street (#6132) projects

Dear Mr. Davis,

The Conservation Law Foundation (CLF) has reviewed the above named documents and submits the following comments. We are aware that the deadlines for submission of comments with respect to these documents has passed. Nevertheless, We urge that, to the degree possible, these comments be incorporated into the environmental review for these projects. Our comments are general in nature and pertain to all three documents.

13.1 The most important observation from an environmental perspective is that all three documents lack analysis of regional transportation impacts and air quality impacts pertaining to tropospheric (ground-level) ozone, as required under the Clean Air Act.[1] Although the Boston Redevelopment Authority's project, the Kingston-Bedford-Essex Street development, fails in these regards, with respect to regional traffic impacts the Draft Environmental Impact Report (EIR) for that project states (at 17)

> [t]he evaluation of this project demonstrates the necessity for a close examination of the traffic needs in a wider area. Some type of traffic master planning action is required for the proper comprehension of the cumulative traffic needs, coordinated with the

---

[1]Massachusetts State Implementation Plan (SIP) for Ozone and Carbon Monoxide, at 195 (1982).

expectations of major planned transportation actions such as the Central Artery/Third Harbor Tunnel.

Clearly, there is recognition by the city of the need for greater attention to the cumulative regional impacts of transportation demand generated by the Kingston-Bedford project and other downtown projects -- including Commonwealth Center and Boston Crossing. Why these analyses were not required in the Secretary's Certificate on the Environmental Notification Form for each project is now moot, but these analyses should be performed for the Final EIR for each project. Without proper attention to their regional transportation impacts, the eventual success of these projects may be constrained by the increasing difficulty of reaching the downtown area, even as local traffic problems are solved.

13.2 In order to examine properly the cumulative transportation impacts of the three projects, the respective Final EIRs should examine the effects of these projects on the major commuter arteries used to reach the area. These might include, for example, the Build and No-Build Level of Service for one representative segment on Storrow Drive, the Southeast Expressway, the Central Artery, Route 1, etc.

13.3 The air quality analysis in each report is likewise deficient in that it covers only the impact of automobile emissions on the immediate area, i.e. carbon monoxide emissions. The very harmful regional air pollution impact from the emission of ozone precursors does not receive mention in any of the reports. While ozone cannot be modelled on a microscale, as with carbon monoxide, regional-scale modelling is possible using the same techniques employed in analyzing ozone impacts of highway projects. It is necessary simply to calculate the total vehicle miles travelled to and from the projects, and apply a per mile emission factor for each type of vehicle.

One further aspect of these projects which is troubling is the number of parking spaces included. As proposed, the three projects include the net construction of 1,664-1,964 spaces (with the 400 foot tower alternative for Kingston-Bedford). The continuation of poor air quality in Boston (from ozone pollution) has triggered federal requirements for greater restrictions on emission-generating activities and facilities. In the future, parking spaces in Boston will be much more tightly controlled than they are presently.

Recent legal research indicates that the Boston Air Pollution Control Commission's regulations on the downtown

Printed on Recycled Paper

13.4 parking freeze, which created the exemptions that made these projects possible, are in conflict with the federal parking freeze regulation which they theoretically apply. The federal regulation, 40 C.F.R. § 52.1135, exempts from regulation only residential spaces and spaces for which no fee is charged. There is nothing to indicate that spaces for employees or their clients are exempt.

Over the next several months, the Metropolitan Planning Organization in cooperation with the city and interested parties will submit amendments to the federal freeze regulation. Until such time as the regulation is amended, the Boston freeze regulations remain inconsistent with the federal regulation. However, whether under the present or an amended regulation, it is clear that the current practice by the city of allowing several hundred spaces for each of a multitude of projects each year will not be allowed in the future. Human health threats and the Clean Air Act make this a certainty.

13.5 As the case of the city of Cambridge illustrates[2], parking spaces which are allowed today may restrict the number which will be allowed in the future. For these reasons, we believe the number of parking spaces for Commonwealth Center and Boston Crossing should be reduced substantially. In addition, provisions for permanent, active Transportation Management Associations should be included in the Transportation Access Plan Agreements for each project. With these two measures, the modal split for office and retail uses can be enhanced on the side of transit use, and thus traffic and air quality impacts reduced. Had the documents fully documented the seriousness of regional transportation and tropospheric ozone impacts from the respective projects, perhaps greater commitment to these and other
13.6 mitigation measures would be forthcoming.

13.7 In addition to regional issues, CLF is concerned about local traffic problems identified in the three reports. Inquiries from CLF to the Boston Transportation Department regarding the dispensation of transportation concerns seemed to indicate that there were many issues still outstanding with regard to all three projects. The impact reports for both projects identify

---

[2]In a recent audit of the parking freeze administered by the City of Cambridge, EPA recently determined that the city has illegally allowed the construction of thousands of new parking spaces. Negotiations are now underway to revise the city's freeze regulations, but construction of new projects in Cambridge is now very much in doubt.

Printed on Recycled Paper

several downtown intersections that will suffer from very poor Levels of Service once these projects and others are completed.

13.8 This situation again argues for substantially reduced parking allocations for both projects, or for scaling down the developments. Not surprisingly, neither of these prospects appears in the impact reports. More significantly, the mitigation measures discussed offer little or no relief.

13.9 Clearly, further work is needed on the transportation circulation issues; this should be addressed in the Final EIR for each project. The Final EIRs must demonstrate a commitment to solving unresolved transportation issues. These issues, more than any others, will remain significant throughout the useful life of

13.10 these projects.

If there are any questions concerning these comments, please do not hesitate to contact us.

Sincerely,

Andrew Hamilton

Andrew Hamilton
Staff Scientist

Printed on Recycled Paper

13.1 Regional Air Quality and Transportation Impacts

A mesoscale analysis of nitrogen oxides (NO_X) and non-methane hydrocarbons has been performed and is included in Chapter V, Environmental Component, Section 6.0. An analysis presented in the Transportation Component of the FPIR/FEIR also indicates that the proposed project will not have a significant impact on the regional arteries. The proposed Boston Crossing project will be responsible for less than two percent of the total traffic volumes on roadways entering Boston and, in most cases, less than one percent. Area-wide traffic impacts are discussed in more detail in Section 5.8 of the Transportation Component of the FPIR/FEIR.

13.2 Effects of Project on Major Commuter Arteries

The proposed project will not have a significant impact on the regional arteries. Area-wide traffic impacts are discussed in detail in Section 5.8 of the Transportation Component of the FPIR/FEIR.

13.3 Regional Scale Model

A mesoscale analysis has been conducted and is included in Section 6.0 of Chapter V, Environmental Component.

13.4 Parking Freeze Regulations

The question of the consistency of the Cambridge and Boston parking freeze programs with Federal regulations has been a topic of debate in recent years. Nonetheless, the EPA has not formally taken the position that any part of the Boston parking freeze program is invalid. Local development projects, such as 75 State Street and others, have proceeded through development and construction in reliance upon the parking freeze program. The project proponent has received no indication from BAPCC that the Boston parking freeze program has been found in violation of applicable Federal standards. Absent such an indication, the proponent has no choice but to proceed under the presumption that the BAPCC's interpretation of the freeze program is correct and valid. The proponent fully intends to comply with BAPCC's procedures and regulations and to continue working with BAPCC to obtain necessary permits.

13.5 Reduction of Parking Spaces

Based on discussions with city officials the number of additional parking spaces will be no more than 875 net new as proposed in the FPIR and FEIR, a relatively low figure for a project with the urban benefits and diversity of use of Boston Crossing. Efforts, by the developer and the Midtown Developers Transportation Management Association (MDTMA), will be made to discourage auto trips and encourage high occupancy trips made to the Boston Crossing garage.

13.6 Midtown Developers Transportation Management Association

Developers of Boston Crossing, Commonwealth Center and One Lincoln Street are establishing a MDTMA. The Association will make increasing the transit share of the projects' modal split a specific and principal goal. A more detailed description of the MDTMA is included in Section 5.8 of Chapter II, General Information of the FPIR/FEIR.

13.7 - Transportation Issues
13.10

The Transportation Component of the FPIR/FEIR includes an analysis of parking demand, circulation, and mitigation. Proposed mitigation measures developed with the BTD will relieve most of the traffic-generated environmental and circulation impacts identified in the DPIR and DEIR and will offer significant improvements in many areas. The proponent is currently working with City officials in developing implementation plans for mitigation of the cumulative impact of the Commonwealth Center and One Lincoln Street projects.

14.0 - 15.0 RESPONSE TO BSA LETTERS OF JUNE 15, 1989 AND JUNE 29, 1989

Letter from: Elizabeth S. Padjen, AIA, Chair, BSA Midtown Cultural District Focus Team

Dated: June 15, 1989 and June 29, 1989

Two letters were received by the BRA from the Boston Society of Architects (BSA) in reference to the Boston Crossing project.

The earliest letter, dated June 15, refers to a design for the project which pre-dated the substantive design changes made for BRA Board approval. The second letter, dated June 29, confirms the significant role of the BSA in affecting the changes and lays out additional goals for further design refinements or revisions.

BSA

REC'D - SOM - NY

AUG 3 1 1989

June 15, 1989

(14)

Mr. Clarence Jones, Chairman
Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201

14

RE: Commonwealth Center and Boston Crossing

Dear Mr. Jones:

The Boston Society of Architects is a strong advocate of major new development in the designated Midtown PDA districts and recognizes the substantial benefits to the City that can be derived from these projects. The renaissance of a lively commercial and cultural district symbolized by the introduction of new tower buildings is a compelling concept that we endorse.

At the request of the BRA, a BSA Focus Team has studied both Commonwealth Center and Boston Crossing in great detail over the past months, and has made a number of recommendations to the project teams in terms of architectural and urban design issues. Very serious concerns remain unresolved, however, and they are those issues that are before you today: the massing, size and configuration of the towers. The original concept of "towers" on these sites has given way to great walls in the sky that will threaten the viability of an already fragile pedestrian environment and will overwhelm an already burdened open space system. The BSA's position, endorsed by both our Urban Design Committee and our Board of Directors, is the following: We do not support the projects in their present form. However, we could support them if the following specific concerns are met with substantive solutions:

1. Greater distance between the towers, in order to allow more sunlight penetration and sky views from within the District and across the Common, as well as to avoid the canyon effect that is currently proposed.

2. Smaller floorplates, particularly in the Commonwealth Center towers and in the southerly Boston Crossing tower, in order to provide more slender buildings that are towers instead of walls, and that can contribute to greater distance between towers. Minor changes have been proposed in the last week that have negligible effect. We would like to work with the teams and the staff for a better resolution of this issue.

The Boston Society of Architects
305 Newbury Street
617 267 9175
800 662 1235 (in Mass.)
A Chapter of the American Institute

3. Reduced height, in order to conform to the zoning maximum of 400'. This is a commitment that should be honored to avoid setting precedents for future development in the District. The BSA Focus Team has previously endorsed modest height increases in exchange for reduced floor areas to achieve greater tower slenderness, but notes that the project proponents are not offering this trade-off.

4. Reduced shadow impact, in order to ensure sunlight in sensitive pedestrian and public areas. Although the projects appear to fall within the shadow area guidelines, we feel that greater space between the towers can create more broken shadow, thereby reducing the shadow impact.

5. Usable public open space, that is well designed and located within the project areas, in order to provide relief to the pressures on the Common, an improved pedestrian environment on Washington Street, continuation of the existing open space network, and an opportunity for street performances and vendors in keeping with the spirit of the Cultural district.

Reduction of program is the simplest answer to our concerns. Both developers have indicated that they do not know how much of the current proposed programmatic area is a result of the public benefits burden, which indicates that there may still be latitude. Contribution to the physical quality of Boston's urban environment is the one public benefit that has not been formally negotiated within the package, yet it is the one benefit that will have the greatest physical permanence in the City.

These issues all address concerns that are critical if retail enterprises in the District and especially along Washington Street are to have any hope of future success. Washington Street must have a lively, comfortable and attractive pedestrian environment in order to balance the inevitable lure of the Boston Crossing mall. The members of the BSA Focus Team have all observed other cities where the introduction of a major enclosed shopping mall has drained the lifeblood of the surrounding retail districts. We do not feel that this is the unavoidable fate for Boston, but we do believe that we must all work very hard to ensure vitality and economic growth for the entire district.

The concerns listed above are consistent with the reservations that were identified in our January 6, 1989, letter to the Board commenting on the District zoning amendment. The unique aspects of these projects, including their site configuration, proximity to the Common, the tower clustering, and the programmatic

density have created a condition in which all of those previous issues have now emerged as critical factors.

We want to continue to work with the project teams and the BRA's very capable staff to resolve these concerns. We do believe that the projects should be considered together and that a successful resolution requires the flexibility to work with the designs of both projects simultaneously.

The Focus Team has the following additional comments identifying issues to be resolved during the next design phase:

1. Sidewalks: In the absence of an extended pedestrian zone and with the anticipated increase in the District's population, it is essential that sidewalk widths be increased to accommodate pedestrian traffic as well as the variety of activities (vendors, outdoor eating, performances) that will make the district lively and exciting.

2. Pedestrian connections: Particularly in Boston Crossing, additional study is needed of the West Street entry and the corresponding Bedford Street entry, and also of Opera Way, to ensure that it is developed as a "public" way and not a department store aisle. Extended operating hours in the mall's internal "streets" are essential for through-block connections, public character, and access to restaurants that will help establish an 18 hour day in the District.

3. Retail at Washington Street: We believe that modifications to the existing Boston Crossing garage (an extension of already proposed modifications) are necessary to support the goal of continuous street-level retailing, with multiple entries and multiple retail identities accessible off Washington Street. Design guidelines should be established for the storefronts that will encourage variegation and offer opportunities for quirky, cutting edge design that will express the character of the District.

4. Avery Street: We feel that Avery Street should be developed as an important pedestrian connection to the Common. Building materials, the hotel porte-cochere, shop windows and entries, and tower lobbies need to be reconsidered in terms of their potential contribution to Avery.

5. Visual Arts: A plan and process for the incorporation of the visual arts into these projects must be established as a fundamental aspect of the Cultural District.

6. Towers: The tower structures, particularly where they are clustered, require substantial restudy in terms of their relationship to one another. This is a rare opportunity to consider such projects concurrently and to develop a powerful symbol of the District's rebirth.

7. Phasing: In view of the anticipated phasing of the projects, we feel it is necessary to evaluate project impact at the initial and interim phases.

Many of these additional comments have been reviewed with the BRA staff and the project teams, who have indicated their willingness to address most of them. Indeed, we have found both the architects and the developers to be understanding of and responsive to most of the urban design concepts that have been discussed, although actual implementation of specific issues has not yet been resolved. The BSA has great respect for the project architects, and is confident that they will be able to produce significant buildings, once the project program and general massing have been better defined.

The original vision for the Midtown Cultural District caught the imaginations of us all. It was to be a special district, where the marriage of commerce and the arts would establish a character unlike any other place in the city, where opportunities for both the visual and performing arts would occur in the midst of a lively streetscape anchored by the extension of the open space network that has historically contributed so much to the quality of life in this City. These projects are the foundation of that plan. The vision has not yet been lost, but we should all re-examine those goals in order to make these projects as good as the BSA knows they can be.

Very truly yours,

Elizabeth S. Padjen, AIA
Chair, BSA Midtown Cultural District Focus Team

for: Ann Beha, AIA
Michael Bernard, APA
Oliver Gilham, AIA
Patrick Hickox, AIA
James McNeely, AIA
James McQueen, AIA
G.W. Terry Rankine, FAIA

cc: Stephen Coyle, Director, BRA
Peter Forbes, FAIA, President, BSA

BSA

June 29, 1989

15

Mr. Clarence Jones, Chairman
Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201

RE: Commonwealth Center and Boston Crossing

Dear Mr. Jones:

In the last two weeks, the Boston Society of Architects' Midtown Cultural District Focus Team has participated in intensive negotiations with the BRA staff and the project teams. Although it has become clear that the substantial changes that we sought in our letter of June 15 will not occur due to the economic burdens that these projects bear, we elected to continue discussions with the project teams, working within the constraints of fixed programmatic area in order to affect positively the impacts of these projects and to address some of our concerns. We believe that the changes that are proposed represent significant improvements in the projects, and we support the progress that has been made. Although the modifications do not meet all our concerns, they do represent the best outcome given the negotiation constraints. We offer the following specific comments relating to the proposed changes:

Boston Crossing:

The proposed change in massing will have a positive effect on the relationship of the three towers at the Washington/Avery intersection. We view the architects' commitment to the redesign of the South (Bloomingdale's) Tower as evidence of the commitment to high quality that they have demonstrated throughout the project. Redesign offers the further opportunity to achieve greater apparent slenderness through architectural articulation.

In order to achieve massing improvements at the South Tower, we support the increased height and mass of the North (Jordan's) Tower, where the site context can better accommodate additional bulk.

Commonwealth Center:

The proposed rectilinear massing for the North ("Keith Block") Tower, including the shift of building mass away from the Paramount Theatre, is a substantial improvement that we endorse. The new configuration will contribute significantly

The Boston Society of Architects
305 Newbury Street
Boston, Massachusetts 02115
617 267 5175
800 662 1235 (in Mass.)
Fax: 617 247 4764
A Chapter of
the American Institute
of Architects

to improved views from across the Common and to a more reasoned relationship with the adjacent two towers. We remain concerned about the loss of sky between the two Commonwealth Center towers, but note that additional shifts in the tower locations create other adverse impacts.

The Focus Team has concerns about other aspects of the projects, some of which are most appropriately addressed during the next phase of Schematic Design Review. This phase will provide the greatest opportunity to develop a distinctive architectural character that will celebrate the marriage of arts and commerce that makes the District a unique asset within the City. The upcoming schematic design phase also represents the point at which the projects must respond to the obligation to provide the special pedestrian character that we all believe is an essential aspect of the Midtown Cultural District. In order to establish a framework for the development of a successful pedestrian environment, we believe that two outstanding reservations must be resolved before further design work begins. These reservations are:

1: Open Space. In addition to the final implementation of a district open space plan, a commitment must be made toward the inclusion of additional well-designed, usable public open
5.1 space located on Washington Street within the project areas that can accommodate seating, vendors, and performers. The vast population of new building occupants, shoppers, and visitors will place a tremendous burden on the existing open space system. Widening of the existing sidewalks is also critical to these issues, although we note with some concern that the City's transportation office has not yet approved this proposal.

2. Accessible retail on Washington Street. Continuous street-level retailing, with multiple entries and, preferably, multiple retail identities is essential. This reservation
15.2 specifically addresses the portion of the Campeau project between "Opera Way" and the West Street entry, where the existing garage creates a finished floor level approximately four feet above the sidewalk. The developer proposes enclosed display windows at this location, continuing the condition that will exist along the Bloomingdale's storefront. The Focus Team strongly believes that a combined "dead" frontage of roughly half the total Washington Street project length, will stifle anticipated street vitality, fail to encourage incremental investment and improvement at properties at the opposite side of Washington, and potentially isolate Commonwealth Center from the critical mass of pedestrian activity. Studies of modifications to the garage to provide 35-40' of accessible retailing indicate that the solution is prac-

ticable, although costly. The Focus Team does not wish to penalize the developer for this work, and has requested a study of other modifications within the project that might subsidize this effort.

The following additional comments identify issues to be resolved during the next design phase, which were described in our letter of June 15. They are summarized below:

15.3 1. Sidewalks: Continued study of sidewalk widening implementation and design development.

15.4 2. Pedestrian connections: Greater public character of Opera Way, additional study of the West Street and Bedford Street connections.

15.5 3. Retail at Washington Street: In addition to the reservation indicated above, development of a street-level architectural character and storefront design guidelines that will encourage opportunities for cutting edge design that will express the character of the District.

15.6 4. Avery Street: Development of Avery Street as an important pedestrian connection to the Common through the architectural contribution of the proposed buildings.

15.7 5. Visual Arts: A plan and process for the incorporation of the visual arts into these projects as a fundamental aspect of the Cultural District.

15.8 6. Tower design: Continued study of the towers in terms of their contribution to the District's character and their relationship to one another.

We look forward to continued participation in the review process for both projects and believe that they can ultimately make a significant contribution to the City's rich architectural heritage.

We have also reviewed the proposed Text Amendment to the Zoning Code, and feel that the proposed definition of "Substantial Accord" in respect to building height in 3 acre PDA's is reasonable. In reference to the proposed change in height, we support the intent to allow greater height at the Campeau South Tower, although we do have continuing reservations about the effects of a zoning amendment rather than a zoning variance. Such a change could send an unfortunate signal that zoning in Boston is a readily changeable set of rules. We also have lingering concerns that the definition could create unwanted height in other sites.

We would like to acknowledge the hard work of the BRA staff in the last weeks. Although BSA goals have been congruent with those of the open space advocates who have also been involved in the process, the priorities of the two groups have sometimes differed with respect to proposed solutions, and have sometimes been in direct conflict with the programmatic concerns of the developers. We understand the inherent difficulties this has represented for the staff and very much appreciate their efforts in support of our goals. We believe the projects are much improved as a result of their hard work and their dedication.

Very truly yours,

Elizabeth S. Padjen, AIA
Chair, BSA Midtown Cultural District Focus Team

for: Ann Beha, AIA
Michael Bernard, APA
Oliver Gilham, AIA
Patrick Hickox, AIA
James McNeely, AIA
James McQueen, AIA
G.W. Terry Rankine, FAIA

cc: Stephen Coyle, Director, BRA
Peter Forbes, FAIA, President, BSA

BSA Letter of June 15, 1989

14.1 BSA Issues

Key issues of this early letter were the subject of intensive design review sessions between the project team, the BSA, and the BRA urban design team. Significant changes were made affecting 1) distance between towers, 2) smaller floorplates, 3) reduced height for the South Tower, and 4) reduced shadow on pedestrian and public areas. These are well represented by the presentation of the current design in the Urban Design Component. Comments on other issues were further presented in the June 29th BSA letter, which is responded to in the following section.

BSA Letter of June 29, 1989

15.1 Open Space

The BSA requested that the proposed project include well-designed usable public open space on Washington Street and include widened sidewalks.

As was requested by the BRA in its Preliminary Adequacy Determination, the project will include widened sidewalks and usable open space associated with the major entrances to the project. These amenities are discussed in further detail in the Urban Design Component, Sections 2.2.7 and 2.3.1.

15.2 Accessible Retail on Washington Street

Response to comments regarding continuous retailing along Washington Street between Opera Way and the West Street entry, and the potential for modifications to the garage to provide accessible retailing, are discussed in detail in the Urban Design Streetscape portion of the FPIR/FEIR, Section 2.2.

15.3 Sidewalk Widenings and Design Development

The project design has been modified to allow for sidewalk widening along Washington, Summer, and Chauncy Streets, Harrison Avenue Extension, Avenue de Lafayette, and Hayward Place, as is described in the Urban Design Component, Section 2.2.7. These plans are currently the subject of intensive review by all affected City agencies as part of a District-wide review of streetscape improvements.

15.4 Pedestrian Connections

Further study of the character of Opera Way, and additional study of the West Street and Bedford Street connections has been undertaken since publication of the DPIR/DEIR. Design modification resulting from this analysis is discussed in the Urban Design Component, Sections 2.2.3 and 2.2.4.

15.5 Retail at Washington Street

Development of a street-level architectural character is described in the Streetscape portion of the Urban Design Component, Section 2.2.2. Storefront design guidelines have not yet been developed for the project, but will encourage creative merchandise displays and cutting edge retail design.

15.6 Avery Street

Development of Avery Street as an important connection to the Boston Common is acknowledged in the attention paid to facade detailing of Bloomingdale's along Hayward Place, as well as design of the Boston Crossing entry tower which faces the Avery Street intersection with Washington Street. Improvements on Avery Street itself are not the responsibility of the Boston Crossing project.

15.7 Visual Arts

A plan and process for incorporation of visual arts into the Boston Crossing project is discussed in the Urban Design Component, Section 2.4.4.

15.8 Tower Design

Additional study of the proposed project towers in terms of their contribution to the District's character and their relationship to one another has occurred since publication of the DPIR/DEIR. A full discussion of the project towers is included in the Urban Design Component, Sections 2.1.2 and 2.1.3.

16.0 BULFINCH DEVELOPMENT CORPORATION LETTER, JUNE 9, 1989

Letter from: J. Miller Blew

Dated: June 9, 1989

BULFINCH

DEVELOPMENT CORPORATION

June 9, 1989

16

Mr. Clarence J. Jones
Chairman of the Board
Boston Redevelopment Authority
1 City Hall Square
Boston, MA 02201

RE: Boston Crossing Development

Gentlemen and Ladies:

As property owners and abutters of the proposed redevelopment of the Lafayette Place mall, we are very pleased to see the rapid progress that these plans have made. Nothing could be more important for this part of the City. Construction of this project will serve to correct the flawed design of the present mall and at last make a real start on eliminating the Combat Zone. We hope you will do all you can to bring about an early start of construction.

We do have one serious concern, however.

In our review of the plans presented at a recent meeting of the Downtown Crossing Association, we have become concerned about a potentially severe problem at the intersection of
16.1 Harrison Avenue Extension and Avenue de Lafayette. At that intersection, a myriad of public activities must occur, and it is essential that the facade of the new Bloomingdales store be set back far enough so that all these uses can safely and aesthetically co-exist.

Just to clarify the point, it is at this particular location that a very large parking garage must draw its access; that a major truck ramp must service the retail complex; that major amounts of bus and automobile traffic must be conveyed from South Station to Back Bay; and that entrances to a major hotel and department store must be provided.

Even more important, however, this location provides the only pedestrian connection, other than going through the retail mall, by which people will be able to walk from Back Bay and the Boston Common to the Financial District. Unless we are to force all pedestrians to go through the retail complex, it is essential that safe and attractive public sidewalks be provided for people to walk through this location.

105 Chauncy Street, Boston, Massachusetts 02111

Unfortunately, the plans drawn so far, provide no more open space at this intersection than the width of Chauncy Street. One need only stand across from the loading docks of Jordan Marsh to see how unpleasant a public space that could be. As presently drawn, the area will be heavily shadowed, and sight lines are very poor. We are concerned that despite the expensive retail environment inside, this design may result in an unsafe atmosphere, as well as an unattractive appearance outside.

We believe that enlarging the public open space at the intersection of Harrison Avenue Extension and Avenue de Lafayette is the only solution to an appropriate, functional, and aesthetic public environment. This intersection should not be treated as a "back alley" location. Instead, this location should be featured in the design. With a more generous allocation of space, good paving textures and some plant materials, this area could become a pleasant event for pedestrians, shoppers and neighbors, alike.

We are sure that as the design evolves and environmental studies are completed, the design can be improved to meet these goals. We just want you to be aware of this particular problem in your considerations of the project.

Thank you very much for your attention to this.

Sincerely yours,

J. Miller Blew

cc: Bethany Kendall, Downtown Crossing Association
Carl Geupel, Campeau Development
Steven Coyle, Boston Redevelopment Authority
Kristin McCormick, Midtown Cultural District
Homer Russell - Urban Design

16.1 Character of the Public Space and Building Entrances at Harrison Avenue Extension and Avenue de Lafayette

A full section of the FPIR/FEIR Urban Design Component is devoted to a more complete description of the design character and activity pattern at this corner of the Boston Crossing project (Section 2.2.1). Key issues discussed include improvements to Opera Way, streetscape plans, and roadway improvements. Boston Crossing will widen Harrison Avenue Extension between Avenue de Lafayette and Hayward Place by being set back from the property line. The resulting block of Harrison Avenue will be wider than Chauncy Street at its narrowest point, opposite 99 Chauncy Street. Boston Crossing will be set back still further from 105 Chauncy Street.

17.0 BOSTON GREENSPACE ALLIANCE, INC. LETTER, JUNE 15, 1989

Letter from: Valerie Burns, President
Mark Primack, Executive Director

Dated: June 15, 1989

Boston GreenSpace Alliance, Inc.

44 Bromfield Street #207 Boston, Massachusetts 02108 (617) 426-7980

June 15, 1989

Mr. Clarence J. Jones
Chairman
Boston Redevelopment Authority
City Hall
Boston, Ma. 02201

17

Dear Chairman Jones and Members of the BRA Board,

The Boston GreenSpace Alliance, a coalition of over one hundred and twenty community, civic, and environmental organizations and agencies concerned with parks and open spaces in Boston, continues to have serious concerns about the current proposals for Commonwealth Center and Boston Crossing. We would very much like to support these projects for we know the many benefits these projects will provide in terms of sustaining Boston's economy and providing for affordable housing, jobs training, and enhancement of cultural resources. Yet as currently configured we feel that these projects will impinge on the integrity of Boston Common, the oldest public open space in the United States; that they will create a a streetscape which does not welcome common Bostonians from the neighborhoods; and that they fail to deal with the increased need for open spaces and sitting areas which an increased workforce and customer base will necessitate. We are also deeply concerned about buildings which go over the heights approved by this Board and the Zoning Commission just a few months ago and about the very poor precedent new zoning amendments or variances would create.

We have been expressing our concerns about these issues for some time now and we include previous correspondence for new Board members. We have been working very closely with BRA staff over the last two weeks and some real progress has been made towards resolving the issues we have raised. We have made and are still willing to make difficult compromises.

Officers
President Valerie Burns, Boston Natural Areas Fund • *Vice President* Lorraine Downey, Boston Environment Department • *Vice President* Charlotte Kahn Boston Gardeners • *Vice President* Henry Lee, Friends of Public Garden & Common • *Treasurer* Ken Withers, Fenway Garden Society • *Clerk* Jane Paquet-Whall, Dorche Association • *President Emeritus* Ed Cooper, Highland Park 400
Board of Directors
Kathy Abbott, Department of Environmental Management • Diego Alvarado, Carter Playground Association • Thelma Barros, Operation Food, Inc • Alexandra Bell-Wh Executive Office of Environmental Affairs • Marianne Connolly MetroParks • Jackie Cooper, Castle Sq Child Development Ctr • Christine Cooper Jamaica Pond Proje Daley, Mass Horticultural Society • Charlie Doyle Friends of Ranger Park • John Feingold, Trust for Public Land • Jim Gorman, Arnold Arboretum Committee • Sarah H M A S C O • June Hatfield, Northeastern University • Blossom Hoag, Sierra Club, Boston Chapter • Janet Hunkel, League of Women Voters Boston • Peter Jackson Bo Society of Landscape Architects • Betsy Johnston Claremont Neighborhood Association • Lawland Long, Quincy School Community Council • Valerie Mailler Suffolk Co Extension Service • George Marsh, Friends of Boston Harbor Islands • Jamiese Martin, Franklin Park Coalition • Mollie Mason, Beacon Hill Civic Association • Kelly Mc Environmental Lobby of Mass • Ollie Melvin, Mary Ellen McCormack, BHA • Maria Meyer, C.E.I.P. Fund, Inc • John Monroe, Charles River Watershed Association • Sh Muirhead, Boston Redevelopment Authority • Lynn Mustian Friends of Boston Waterfront Parks • Mark Olezek, Back Bay Association • Ju Proctor Arnold Arboretum • University • Renee Rubin, Program for Public Space Partnerships • Marsha Rockefeller, Mass Audubon Society • Polly Selkoe, Jamaica Hills Association • Rob Stuart Boston Fenway Program • Leroy Stoddard, Southwest Corridor

We will work hard with BRA staff and project proponents to reach agreements, but if no modifications are made, we will formally oppose these projects in two weeks. Without some reasonable modifications, these projects will harm the long-term interest of Boston as a livable and wonderful city. Again, we would very much like to count ourselves as strong supporters of these projects.

Open Space Needs of the District

If these two projects go forward in their present form they will create a relentless environment. These two projects will bring thousands of new workers to the district and tens of thousands of new customers to the downtown without providing basic open space amenities or even sidewalks wide enough to accommodate this increased pedestrian traffic.

Shopper's Park and Summer Street and to a lesser extent the Boston Five Plaza are well used by Boston's diverse population. Currently there are sitting areas on every block of Washington Street between State Street and Summer Street. As any observer can see, even now every bench on Summer Street is already taken for much of the day from mid-April through October. The need for public outdoor amenities is also illustrated by the instant success of the new Shopper's Park. These small spaces serve an obvious need in spite of the proximity of Boston Common. As currently planned, there will not be an adequate sitting area between Summer and Bolyston Streets. Well-designed outdoor public open spaces are also inherently democratic, providing access to the district for those who may not be able to afford shopping in the stores and who may find restaurants and outdoor cafes too expensive and uncomfortable for their means and taste.

In the last round before this Board, we requested that the BRA do an open space study for the district, something which the agency is presently engaged in. But the study is not yet completed. Where will the children who attend the day-care centers play? Where will people find convenient seating within the district to rest their legs or to meet a friend prior to dinner or the theater? Where will employees go for lunch? Where will older people sit while moving from shopping to the theater district? While the Common can accommodate some increase in use, it cannot tolerate an increase of this scale. A refurbished Liberty Tree Park would simply be too small to serve this expanded need and Eliot Norton Park is just too far away. People want convenience, someplace to sit close by.

We would strongly suggest that both projects be required to provide some kind of public outdoor open space within or directly adjacent to the

projects by shaving corners to create Shopper's Park-type spaces(sunny Essex St. corner?), by widening sidewalks and providing trees and benches adequate to increased pedestrian traffic such as Summer Street, and by other means. If space for these needs cannot be provided within the projects' bounds, we feel that the developers should pay for acquisition and development of small open spaces directly adjacent to or in very close proximity to the projects(the at-grade Edison property now planned as a parking lot?). We feel that this issue is very important in terms of ensuring that Bostonians of all incomes have some accomadation in this district--otherwise it will feel unfriendly to neighborhood people, much as Copley Place or Chestnut Hill Mall do. A few small well-designed open spaces can help make this a lively, up-scale retailing district which also belongs to the people of this city.

Urban Design

Together these two projects will form a massive wall, overwhelming the Boston Common, obliterating morning light for much of the year, and eliminating access to the sky in the heart of the district. We are particularly concerned about the height of these buildings and their mass. We worked with BRA staff and you(the Board) during the winter on a compromise which will allow extensive shadows in morning when sun is most desirable. This was a difficult compromise for us and we want to make sure that it acts as intended.

As well, we all compromised on building height, agreeing to a four hundred foot height limit for these buildings. Now it appears that we are getting buildings that are nearly five hundred feet high; and, in the case of the Boston Crossing towers, the buildings are significantly over the 400 foot limit even as defined in the zoning code.

Viewed together these buildings form a wall, particularly when Tremont-on the Common is factored in, as it must be, with only a narrow slot of light between the two Commonwealth Center towers and no space between Commonwealth Center and Boston Crossing/TotC. As well, though documents refer to the shadows on the Common as not being solid--there being a supposed movement from shadow to light to shadow to light, as in the dappling of shadows from trees that people enjoy(during the summer--the new shadows would be in the winter when people most desire and need sunlight)--in fact the shadow will be a massive block with a thin crack of sun. We have been making solid progress on this issue in the last few days in conjunction with meetings with BRA staff and the Commonwealth Center proponents, but have a ways yet to go.

Boston Common Endowment

We have been informed that project proponents want to limit their mitigation contribution to Boston Common to a term of ten years. We can accept that if the buildings will be taken down at the end of that term. Otherwise the buildings will continue to cast shadows on the Common; they will visually impact on the Common; people who work in the buildings will use the Common; and they and customers of the buildings will enjoy the Common for as long as the building stands. Therefore, the developments should continue to make payments towards the upkeep of the Common for the life of the building. (Also, the BRA has stated that Boston Crossing will be making a Common mitigation payment--this does not appear anywhere in their documents!)

What's Wanted

17.1 1. Buildings must be made to conform as closely as possible with the commonsense meaning of a 400 foot height limit--certainly no building should have occupied floors over that height.

17.2 2. The buildings should be slimmed down, to reduce their overwhelming massiveness, to allow additional sky to be seen between them, and to allow sunlight to truly alternate with shadow on Boston Common.

17.3 3. Provision must be made either by the BRA or the developers for the provision of new outdoor open space in the district adequate to the needs of the ten thousand new workers to be employed in the district, the children serviced by the district's day-care centers, the hundreds of thousands of new costumers the district hopes to attract, and the needs of Boston neighborhood residents to have a place that they can enjoy regardless of income. Such spaces are essential to democratize the district and make it comfortable.

17.4 4. The Boston Common endowment should be funded for the life of the buildings using a formula such as was developed for Parkside and Heritage, but taking into account commercial as well as residential space. The amount of the endowment should be comparable to the impacts on the Common of the shadows and vastly increased population--that is, not inconsiderable. Both projects should pay into this endowment.

Conclusion

The Boston GreenSpace Alliance remains committed to working with city government and developers as well as other groups to create a revival of the arts and the creation of jobs and economic opportunities in the Midtown Cultural District. We remain flexible and willing to compromise--in fact, we hope, for everyone's sake, that the process does not drag on. We believe that the issues which we raise here are consistent with what we have been saying all along and that we can work together on their resolution during the next two weeks.

Sincerely,

Valerie Burns, President

Mark Primack, Executive Director

17.1 400-Foot Height Limit

Extensive discussion and technical analysis have focused on the issues of height and resultant shadow on the Boston Common. The current design for the South Tower (One Summer Street) has reduced the height significantly by removing three occupiable floors from the building, and allowing for only the minimum of non-occupiable space at the top of the building as opposed to the more dramatic top originally proposed. The South Tower will be approximatively 405 feet high, to the top of the last occupiable floor. It will not exceed 415 feet and will be in substantial accord with the zoning height limit of 400 feet based on the definition of substantial accord. The North Tower (500 Washington Street), which is set back much further from the Common, will be approximately 475 feet high, to the top of the last occupiable floor. It will not exceed 480 feet, and will be in substantial accord with the zoning height limit based on the definition of substantial accord. The option for an additional needle spire has also been discussed to accent the slimness of the tower.

A discussion of project height is provided in the current project description/introduction to Chapter VI, the Urban Design Component.

17.2 Slimmer Buildings

The project design has been modified since publication of the DPIR/DEIR to allow for a slimmer 500 Washington Street tower (tower above Bloomingdale's), as is described in the Urban Design Chapter, Sections 2.1.2 and 2.1.3.

17.3 Provision of New Outdoor Open Space

General issues of improved streetscape and public open space are discussed in the Urban Design Chapter, section 2.3.1. Opportunities for new outdoor open space include spaces for temporary performances on Washington Street widened sidewalks. Other areas that could be used for outdoor open space would be located in the refurbished Summer Street auto restricted zone, along Chauncy Street near the corner of Summer Street, and at the Washington/Hayward Place entrance to Bloomingdale's. Options for use of rooftop space are described in section 2.3.2 of Chapter VI, the Urban Design Component.

17.4 Contribution to Boston Common Endowment

In the interest of supporting public open space in the neighborhood, the proponent has agreed to contribute $247,500 to the City of Boston Department of Parks and Recreation to provide economic assistance for the ongoing maintenance of the Boston Common and the Public Garden. These payments will begin with a $25,000 lump sum at the issuance of building permit. In the third year after the beginning of construction, the proponent will contribute $5,000, with the balance provided in annual contributions of $7,500, until the full $247,500 has been paid.

APPENDICES

APPENDIX A

LEGAL JUDGEMENTS OR ACTIONS PENDING AS OF 3/14/89 RELATING TO BOSTON CROSSING PROJECT AREA

APPENDIX A
LEGAL JUDGMENTS OR ACTIONS PENDING
AS OF 3/14/89
RELATING TO BOSTON CROSSING PROJECT AREA

A. Chapter 121A Proceedings:

1. Lafayette Place Associates v. Board of Assessors of Boston and Commissioner of Revenue (Appellate Tax Board No. 146726). (Appeal re valuation of the Lafayette Place development as of January 1, 1986)

2. Lafayette Place Associates v. Commissioner of Revenue (Appellate Tax Board No. 148668). (Appeal re use tax assessments for March-November, 1984)

B. Matters Pending Before Massachusetts Commission Against Discrimination:

1. Olin v. Lafayette Place Associates (MCAD No. 87-BPA-0045). (Complaint on behalf of disabled claiming wrongful ejection from Mall)

2. Range v. Lafayette Place Associates (MCAD No. 87-BEM-1020). (Complaint by LPA's former Director of Security alleging dismissal on account of race, age and medical condition)

APPENDIX B

RESTRICTIVE COVENENTS AND CONTRACTUAL RESTRICTIONS

APPENDIX B
RESTRICTIVE COVENANTS AND CONTRACTUAL RESTRICTIONS

(a) Boston Redevelopment Authority ("BRA") Urban Renewal Plan for Central Business District-Bedford-West dated as of January, 1973, together with Approval by the Department of Community Affairs and the Certificate of Vote and Resolution of the BRA concerning minor modifications of such Urban Renewal Plan.

(b) Land Disposition Agreement dated October 12, 1979, among the BRA, the City of Boston (the "City"), and Lafayette Place Associates ("LPA"), as amended by Supplemental Agreement and Amendment dated as of February 17, 1982.

(c) Deed dated October 12, 1979, from the BRA to the City, of the Bedford-West Urban Renewal Area.

(d) Maintenance and Easement Agreement dated as of June 1, 1979, among Al-Jordan Realty Corp. ("Al-Jordan"), Jordan Marsh Company ("Jordan Marsh"), LPA, and the City, as amended by First Amendment to Maintenance and Easement Agreement dated as of May 15, 1985.

(e) Deed and Agreement dated as of September 11, 1979, between the City and LPA, as amended by First Amendment to Deed and Agreement dated as of February 17, 1982, and by Second Amendment to Deed and Agreement dated as of June 8, 1983.

(f) Deed dated as of November 1, 1984, from LPA to Lafayette Place Hotel Associates, of the Lafayette Hotel Parcel.

(g) Agreement With Respect to Operating Covenant dated June 1, 1979, between Al-Jordan and Jordan Marsh.

APPENDIX C

DESCRIPTION OF PROJECT AREA

APPENDIX C
DESCRIPTION OF PROJECT AREA

AL-JORDAN PARCEL

Parcel I

All that certain lot, piece or parcel of land with the buildings and improvements thereon, situate, lying and being in the City of Boston, County of Suffolk and Commonwealth of Massachusetts, shown at Lot 1 on a plan entitled "Plan of Land in Boston, Massachusetts," dated December 3, 1976, by William S. Crocker, Inc., Civil Engineers and Surveyors, recorded with Suffolk County Registry of Deeds, Book 8923, Page 571, and bounded and described as follows:

WESTERLY by Washington Street two hundred seventy-two and 72/100 (272.72) feet;

NORTHERLY by Summer Street by two lines measuring together one hundred fifty and 46/100 (150.46) feet;

EASTERLY by Lot 2 as shown on said plan ninety and 56/100 (90.56) feet;

NORTHERLY by the same twenty-five and 17/100 (25.17) feet;

WESTERLY by the same ninety and 43/100 (90.43) feet;

NORTHERLY again by said Summer Street by six lines measuring together two hundred fifty-one and 47/100 (251.47) feet;

EASTERLY by Chauncy Street by two lines measuring together two hundred forty-nine and 62/100 (249.62) feet;

SOUTHERLY by the northerly sideline of the former Avon Street eighty-six and 95/100 (86.95) feet;

EASTERLY by the same seven-one-hundredths (7/100) of a foot; and

SOUTHERLY again, by the same, by four lines measuring together three hundred thirty-three and 76/100 (333.76) feet;

containing 107,817 square feet of land, more or less, according to said plan.

Portions of said Lot 1 comprise registered land shown respectively on Land Court registration plans 13646A, 15285A, and 19416A, reference for title to the same being made to Certificate of Title No. 87798, issued by Suffolk Registry District of the Land Court; said Lot 1 having been conveyed to Al-Jordan Realty Corp. by deed of Alstores Realty Corporation dated December 19, 1975 recorded in Suffolk Deeds, Book 8842, Page 243 and filed with said Registry District as Document No. 326762.

Parcel II

All that parcel of land with the buildings thereon situate and now numbered 15 and 17 on Summer Street in Boston, Suffolk County, Massachusetts, bounded and described as follows:

NORTHEASTERLY on Summer Street, twenty-five feet, two inches;

SOUTHEASTERLY on land now or late of Salisbury's trustees, ninety and 43/100 feet;

SOUTHWESTERLY on land now or late of Ebenezer T. Andrews, twenty-five feet, two inches, and

NORTHWESTERLY on land now or late of Benjamin R. Nichols, ninety and 56/100 feet.

Or however otherwise said premises may be bounded or described and be all or any of said measurements more or less. The premises are also shown as Lot 2 on plan filed with said Deeds, Book 10176 Page 208.

THE LAFAYETTE RETAIL PARCEL

Beginning at the intersection of the northerly boundary of the Avenue de Lafayette Parcel and the easterly sideline of Washington Street as shown on the below described plan;

Thence running the following courses and distances along the easterly sideline of said Washington Street;

N 34°-20'-52" E 83.42 feet;
N 35°-48'-52" E 87.14 feet;
N 36°-46'-53" E 34.07 feet;
N 38°-19'-38" E 168.25 feet;
N 37°-19'-12" E 32.67 feet;

Thence turning and running S 51°-19'-24" E a distance of 79.76 feet;
Thence turning and running S 47°-17'-14" E a distance of 118.20 feet;
Thence turning and running S 47°-06'-44" E a distance of 68.98 feet;
Thence turning and running S 47°-23'-04" E a distance of 66.82 feet;
Thence turning and running N 36°-55'-06 E a distance of 0.07 feet;
Thence turning and running S 47°-20'-14" E a distance of 86.95 feet to the westerly sideline of Chauncy Street as shown on said plan;

Thence turning and running the following courses and distances along the westerly sideline of said Chauncy Street as shown on said plan;

S 39°-40'-43" W 34.01 feet;
S 39°-56'-30" W 17.35 feet;
S 35°-18'-40" W 93.07 feet;
S 35°-27'-33" W 37.15 feet;
S 33°-33'-22" W 160.00 feet to the northerly boundary of said Avenue de Lafayette Parcel;

Thence turning and running N 56°-44'-33" W along the northerly boundary of said Avenue de Lafayette Parcel as shown on said plan a distance of 429.06 feet to the point of beginning; containing an area of 159,123 square feet as shown on a plan entitled "Lafayette Place Project, Boston (Suffolk Co.) Mass." by HARRY R. FELDMAN, INC., dated June 1, 1979, recorded with Suffolk Deeds, Book 9288, Page 51.

HAYWARD PARCEL A

Beginning at a point along the northerly line of Avenue de Lafayette S 56°045'-16" E a distance of 216.38 feet from the southerly curve of a radius 10.00 feet at the intersection of the northerly sideline of Avenue de Lafayette and the easterly sideline of Washington Street;

Thence running along the westerly line of Harrison Avenue Extension S 33°-33'-20" W a distance of 157.00 feet;

Thence turning and running S 86°-16'-39" W a distance of 141.34 feet;

Thence turning and running on a northerly curve of radius 168.00 feet a distance of 69.94 feet;

Thence turning and running the following courses and distances along with easterly sideline of Washington Street;

N 01°-29'-26" E a distance of 48.39 feet;

N 19°-29'-03" E a distance of 94.47 feet;

N 31°-34'-06" E a distance of 18.27 feet;

N 31°-52'-30" E a distance of 86.08 feet;

N 34°-20'-08" E a distance of 44.18 feet;

Thence turning and running on a southerly curve of radius 10.00 feet a distance of 15.90 feet;

Thence turning and running S 56°-45'-16" E a distance of 216.38 feet to the point of beginning.

Above described parcel contains 49,639 square feet.

HAYWARD PARCEL B

Beginning at a point along the northerly line of Avenue de Lafayette S 56°45'-16" E a distance of 256.10 feet from the southerly curve of radius 10.00 feet at the intersection of the northerly sideline of Avenue de Lafayette and the easterly sideline of Washington Street;

Thence running along Harrison Avenue Extension S 33°-33'-20" W a distance of 129.31 feet;

Thence turning and running S 86°-16'-39" W a distance of 189.73 feet;

Thence turning and running on a northerly curve of radius 170.00 feet a distance of 70.10 feet;

Thence turning and running N 01°-29'-26" E a distance of 2.00 feet along the easterly line of Washington Street;

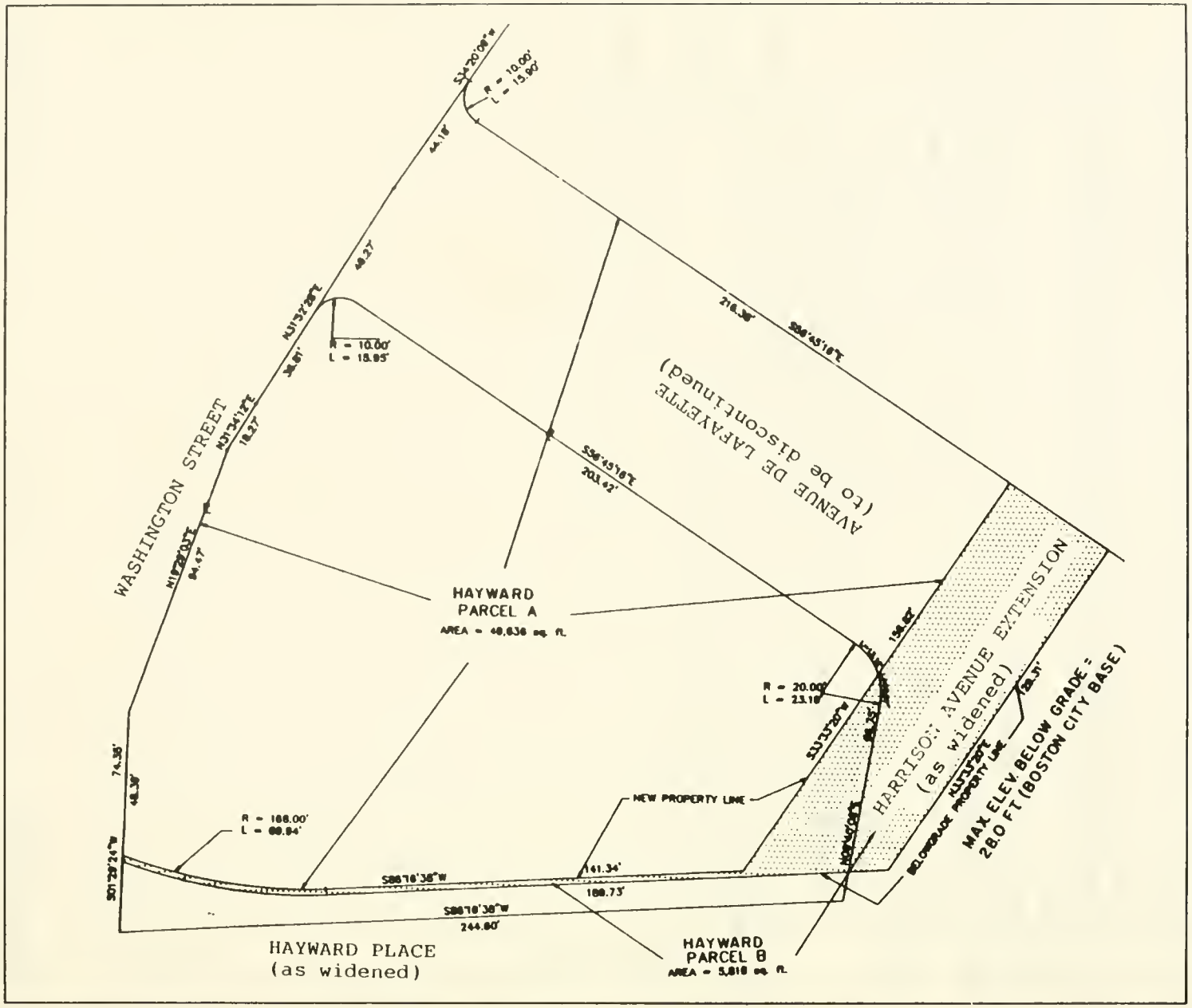
Thence turning and running on a northerly curve of radius 168.00 feet a distance of 69.94 feet;

Thence turning and running N 86°-16'-39" E a distance of 141.34 feet;

Thence turning and running N 33°-33'-20" E a distance of 157.00 feet;

Thence turning and running S 56°-45'-16" E a distance of 39.72 feet to the point of beginning.

Above described parcel contains 6,153 square feet.



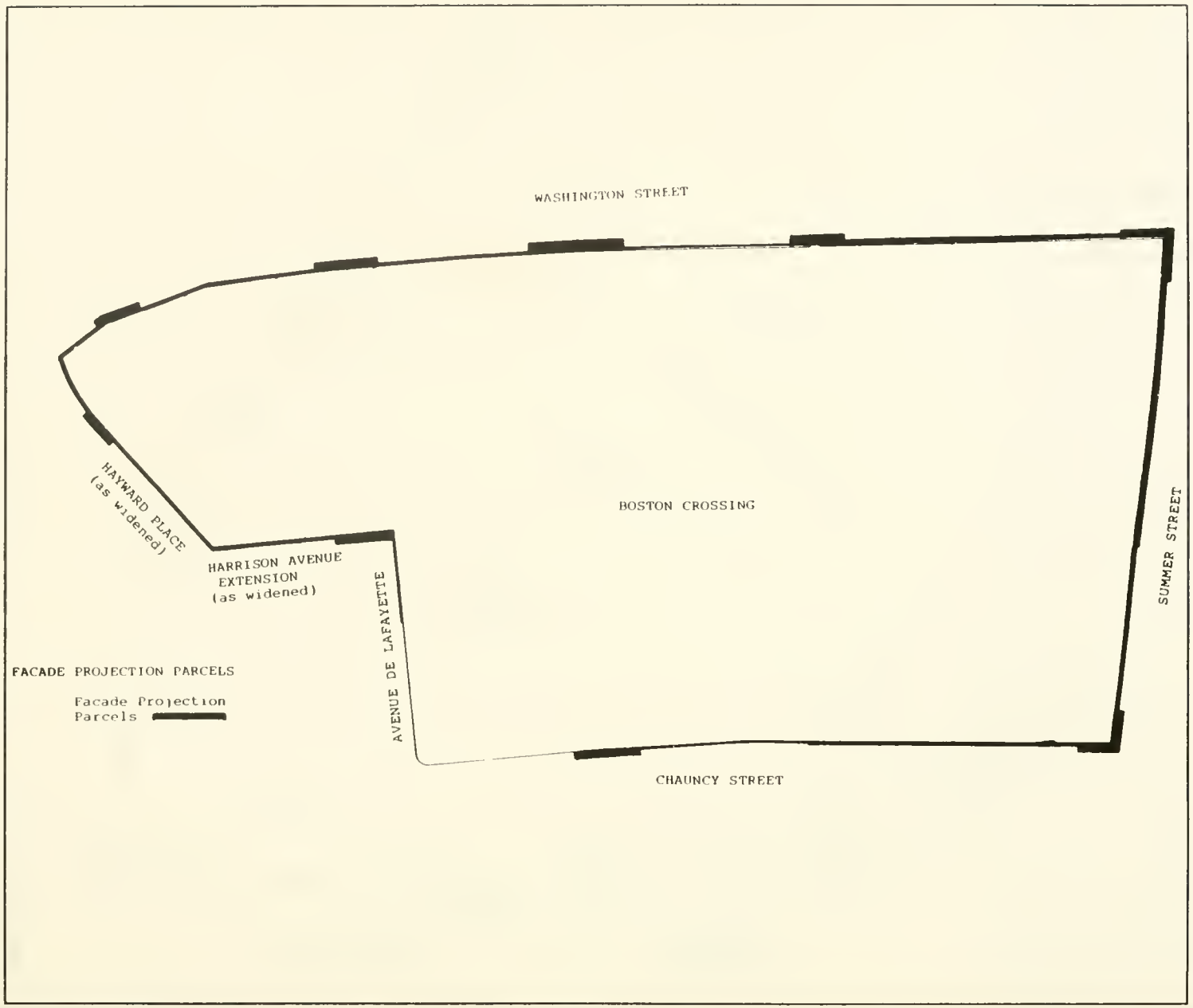
BOSTON CROSSING

FIGURE C-1
Hayward
Parcels A &B

HMM ASSOCIATES, INC.

FACADE PROJECTION PARCEL

The Facade Projection Parcel consists of the air space over those parts of Washington Street, Avenue de Lafayette, and a widened Harrison Avenue Extension and Hayward Place that bound the Project Site between various elevations of not less than thirty-five (35) feet and not more than one hundred and seventy (170) feet above the City of Boston Base, extending varying distances of not more than ten (10) feet horizontally into such streets, as shown diagrammatically on the plan in Figure C-2. The detailed boundaries of such parcels shall be fixed by the Developer after completion of construction of the improvements within such parcels and shall be shown on as-built plans; the City and the Developer shall execute, acknowledge and record with Suffolk Deeds such plans and an instrument or instruments evidencing such boundaries.



BOSTON CROSSING

FIGURE C-2
Facade
Projection Parcels

HMM ASSOCIATES, INC

APPENDIX D

ANTICIPATED EXCEPTIONS FROM DIMENSIONAL REQUIREMENTS

APPENDIX D
ANTICIPATED EXCEPTIONS FROM DIMENSIONAL REQUIREMENTS

Height and FAR

Under Section 38-11 of the Code, the height standards for PDA-II allow the project, by PDA exception, to be in substantial accord with a maximum building height range of 155 to 400 feet and, provided certain conditions are met, allow one portion of the project to be in substantial accord with a building height of 465 feet.

The height of the project's northern tower will not exceed 480 feet and the height of the project's southern tower will not exceed 415 feet. These heights, based upon the definition of "height" in Section 2-1 of the Code and the definition of "Substantial Accord" in Article 38 of the Code, are greater than the "as-of-right" building height of 155 feet for this area under Section 38-7 of the Code but are in substantial accord with the maximum height standards under Section 38-11. Thus, the project will require a PDA exception for building height.

Under Section 38-11 of the Code, the FAR standards in PDA-II allow the project, by PDA exception, to be in substantial accord with a maximum FAR range of 10-14.

The FAR for the project, taking into account the floor area of the existing Lafayette Place Hotel (not a part of the project but existing above and adjacent to the Lafayette Place retail center), is anticipated to be greater than 10 but less than 10.5. This is greater than "as-of-right" FAR of 10 for this area under Section 38-7 of the Code but is in substantial accord with the maximum FAR standards under Section 38-11. Thus, the Project will require a PDA exception for FAR.

General Design and Environmental Impact Standards

Section 38-16 of the Code provides that, in addition to the development review requirements set forth in Article 31, proposed projects submitted for approval as part of an application for development plan approval under Section 38-10 shall be in substantial accord with the General Design and Environmental Impact Standards contained in Section 38-16.

In its approval of the development plan for the project, the BRA found that, except for the design standards contained in Section 38-16.4 (requiring that separate building elements of more than 155 feet in height be separated by at least 125 feet) from which an exception will be required for the project (discussed below), the project complies with each of the deign and environmental impact standards of Section 38-16. The Board of Appeal, however, will be asked to confirm that by virtue of the findings made by the BRA in its approval of the project's Development Plan, the Project has satisfied the requirements of Section 38-16.

Street Wall Height and Setbacks

Section 38-19.2 of the Code provides that the "street wall height" of any proposed project shall not exceed 90 feet. For projects on north-south streets, Section 38-19.4(a) of the Code requires 25-foot setbacks above the applicable street wall height, and 35-foot setbacks above 155 feet. For east-west streets, Section 38-19.4(a) requires 15-foot setbacks above the street wall height up to 235 feet, and 35-foot setbacks above 235 feet. It is anticipated that exceptions will be required from the setback requirements of Section 38-19.4(a) of the Code for the project along Washington Street, Summer Street, Chauncy Street, Avenue de Lafayette, Harrison Avenue Extension and Hayward Place for a maximum street wall height along those streets not to exceed approximately 139 feet, 148 feet, 185 feet, 105 feet, 130 feet, and 139 feet respectively.

Maximum Floor Plates

Section 38-14.4(b) of the Code provides that above a height of 125 feet, the average gross floor area per floor of separate elements of a proposed project shall not exceed 22,500 square feet and the maximum floor area of any single floor shall not exceed 25,000 square feet.

These requirements are met for the north office structure and the south office structure if the height of 125 feet is measured from the top of the underlying department stores, thus taking into account the extraordinary contribution to be made to the Midtown District by Bloomingdale's and a renovated Jordan Marsh and the limited footprints available for these structures.

If the height of 125 feet is measured from the ground, it is anticipated that the maximum floor plate of the north office component will be approximately 43,000 square feet and that the average floor plate above 125 feet will be approximately 22,500 square feet; and that the maximum floor plate of the southern office component will be approximately 31,000 square feet and that the average floor plate above 125 feet will be approximately 22,500 square feet. The project will require exceptions from the requirements of Section 38-19.4(b).

Minimum Distance Between Buildings

Section 38-16.4 of the Code requires separate building elements of more than 155 feet in height to be separated by at least 125 feet. Existing structures, structures for which the Board of Appeal has granted zoning relief and structures for which development plan approval has been granted by the BRA are to be considered. It is anticipated that, as separate building elements, the project's office components will require exceptions from this requirement. The office component to be located at 500 Washington Street (the tower above the Bloomingdale's store) exceeds 155 feet in height. At that location, the minimum distance between the Boston Crossing project and the portion of the proposed Commonwealth Center project to be bounded by the westerly side of Washington Street and the northerly side of Avery Street is approximately 70 feet. This distance occurs at grade. Above 155 feet in height, the minimum distance between the Boston Crossing project and the above-described portion of the proposed Commonwealth Center project is approximately 80 feet.

The minimum distance between the Boston Crossing project and the portion of the proposed Commonwealth Center project to be bounded by the westerly side of Washington Street and the southerly side of Avery Street is approximately 70 feet. This distance occurs at grade. Above 155 feet, the minimum distance between the Boston Crossing project and the above-described portion of the proposed Commonwealth Center project is approximately 100 feet.

The office component to be located at One Summer Street (the tower above the Jordan Marsh store) exceeds 155 feet in height. At that location, the minimum distance between the Boston Crossing project and the existing 101 Arch Street building on the northern side of Summer Street ranges from approximately 50 to 60 feet. This distance occurs at grade and the variation is due to variations in the width of Summer Street. Above 155 feet, the minimum distance between the Boston Crossing project and the 101 Arch Street building is approximately 85 feet.

As described in the Urban Design Component, Section 2.1.3, current distances between upper portions of the towers are as follows: 160 feet between the North Tower and the 101 Arch Street Tower; 262 feet between the Boston Crossing South Tower and Commonwealth Center's South Tower, and 105 feet between the Boston Crossing South Tower and Commonwealth Center's North Tower. The two Boston Crossing towers are 390 feet apart.

Streetwall Continuity

Section 38-19.1 of the Code requires that the streetwall of any proposed project be at least 80% coextensive with the existing building alignment of either block adjacent to the block on which the proposed project is located. It is anticipated that due to the existence of multiple recessed entranceways and various facade projections, exceptions from this requirement will be required.

Recesses Above the Display Window Area Street Wall

Section 38-19.1 of the Code provides that, above the Display Window Area Street Wall, the maximum permitted depth of any recess is fifteen feet and the maximum aggregate surface area of all recesses is 20%. It is anticipated that due to the existence of recessed entranceways at a height above the Display Window Area Street Wall and due to the existence of various decorative recesses and architectural articulation, exceptions from this requirement will be required for recesses in the project's Street Wall (above the Display Window Area Street Wall) on Washington Street, Hayward Place and Chauncy Street.

Display Window Area

Section 38-19.3 of the Code requires proposed projects to comply with certain provisions relating to display window area and streetwall transparency, continuity, and usage. It is anticipated that various exceptions from the Code's Display Window Area requirements as to continuity and usage will be required.

Conditional Use Permits

The conditional use permits required are for the parking garage and subway entrances.

Other Exceptions

Other or different exceptions than those described in this appendix may be required as a result of project changes during the Article 31 process. Interpretations from the Board of Appeal may also be sought as to the meaning of various Code requirements.

APPENDIX E

ANTICIPATED PERMITS REQUIRED FOR THE PROJECT

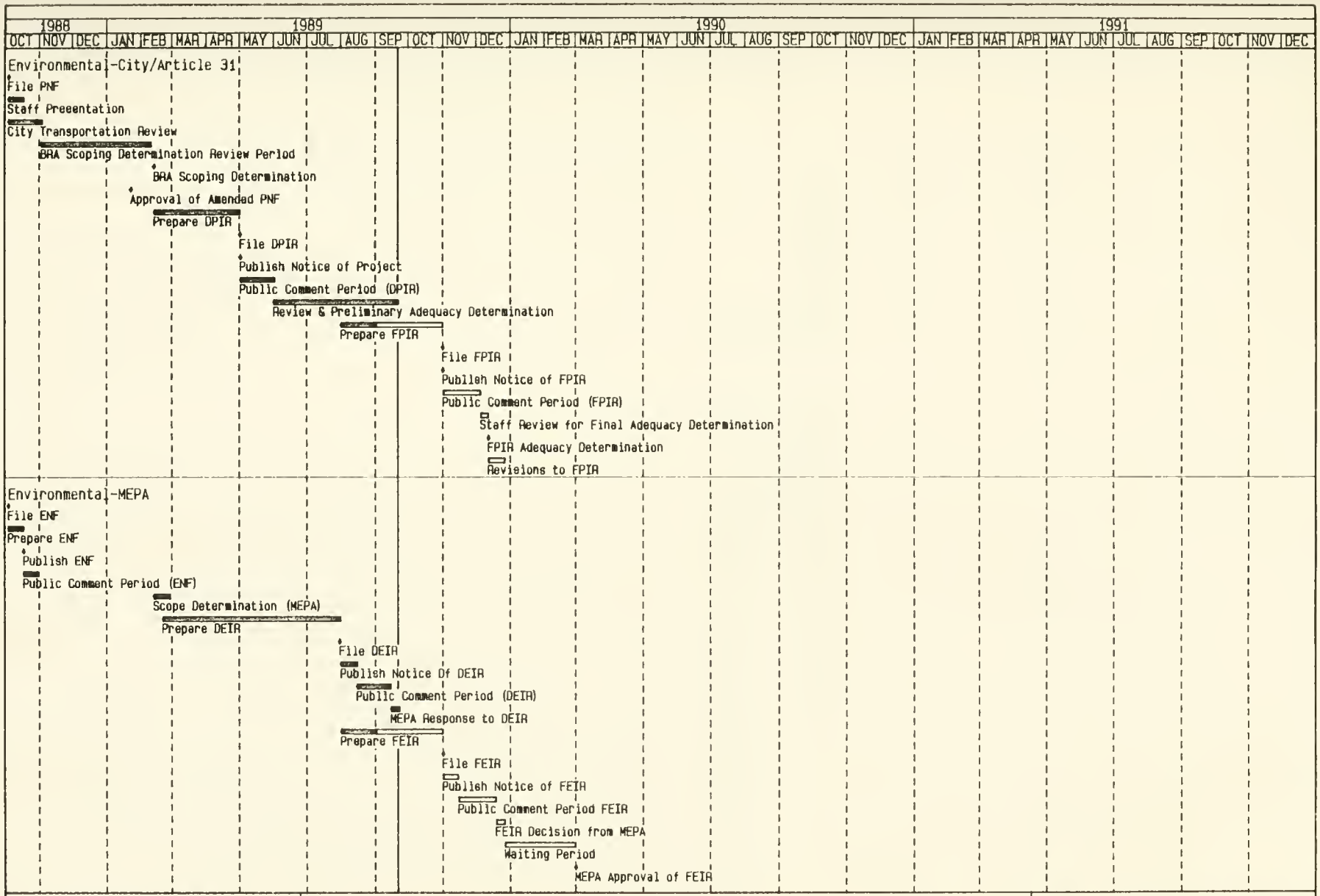
APPENDIX E
ANTICIPATED PERMITS REQUIRED FOR THE PROJECT

Anticipated Permit	Proposed Application/ Submission Date
A. Federal	
1. Federal Aviation Administration Approval of Project Exceeding 200 Feet in Height	3/90
B. State	
1. Massachusetts Historical Commission Determination of Effect on Properties Listed or Eligible for Listing in the State Register of Historic Places	6/89
(a) Memorandum of Agreement or Joint Memorandum of Prudent and Feasible Alternatives (if necessary)	
2. Massachusetts Environmental Policy Act	
(a) Draft EIR	7/89
(b) Final EIR	12/89
3. DEP Division of Water Pollution Control Sewer Discharge Permit	3/90
4. MWRA Industrial User Discharge Permit (issued jointly with Boston Water and Sewer Commission)	3/90
5. Massachusetts Architectural Access Board Variances (if needed)	
6. Special Legislation Authorizing Termination of 121A Agreements	
(a) Filed with City Council	2/90
(b) Filed with legislature	3/90
7. DEP Fossil Fuel Utilization Permit	3/90
8. MBTA approval of relocation of easement area	3/90
9. Notice of Commencement of Construction to DEP	4/90

Anticipated Permit	Proposed Application/ Submission Date
C. Local	
1. Boston Air Pollution Control Commission Parking Freeze Permit	3/90
2. Boston Redevelopment Authority Boston Zoning Code Article 31 Review	
(a) Draft PIR	5/89
(b) Final PIR	12/89
3. Boston Public Facilities Commission Designation of Developer	3/90
4. Boston Water and Sewer Commission Connection and/or Extension Permit and Dewatering Drainage Discharge Permit	3/90
5. Boston Water and Sewer Commission Industrial User Discharge Permit (issued jointly with the MWRA)	3/90
6. Boston Public Safety Commission Committee on Licenses Parking Garage License and Fuel Storage Permit	3/90
7. Boston Public Improvements Commission Approval of Discontinuance of Avenue de Lafayette Between Harrison Avenue Extension and Washington Street, and Various Spaces Above, Within, and Below Hayward Place, Harrison Avenue Extension, Chauncy Street, Summer Street, and Washington Street for Specific Project Uses	2/90
8. Boston Department of Public Works Curb-Cut Permits	4/90
9. Building Permit - Inspectional Services Department	
(a) Application	12/89
(b) Received	4/90

APPENDIX F

MEPA AND ARTICLE 31 SCHEDULE



Activity Bar/Early Dates
Critical Activity
Progress Bar

Primavere Systems, Inc. 1984-1989

Tishman Beacon
Boston Crossing
Preconstruction Schedule

Project Start : 1MAY88
Project Finish: 27OCT95

Sheet 1 of 1

Data Date: 21SEP89
Plot Date: 10OCT89

Tishman Beacon

Date	Revision	Checked	Approved

APPENDIX G-1 PROJECT AREA OWNERS

G-2 DISPLACEES

G-3 ABUTTERS LIST

G-4 CITY AGENCIES AND COMMUNITY GROUPS

APPENDIX G-1
PROJECT AREA OWNERS

The current owners of real estate in the project area are Al-Jordan Realty Corp. (Jordan Marsh store); Lafayette Place Associates (Lafayette Place retail center); City of Boston (Lafayette Place garage, Avenue de Lafayette parcel and Hayward parcel).

APPENDIX G-2
DISPLACEES

The existing tenants and occupants of the Lafayette Place retail center as of 3/14/89 that will have to be temporarily displaced to accommodate the new development will be relocated within the proposed project.

APPENDIX G-3
ABUTTERS LIST

WARD 3

Parcel	Abutters*	Property Affected
4504	Henry H. Levin Box 459 99 Chauncy Street Boston, MA 02111	89-99 Chauncy Street 21-29 Harrison Ave. Ext.
4511	Herbert G. Perry, et al. c/o Herbert G. Perry 20 Winthrop Square Boston, MA 02110	90-100 Chauncy Street S COR
4520	Boston Edison Co. Mass. Corp. c/o Real Estate & Property Taxes 800 Boylston Street Boston, MA 02199	30 Avenue de Lafayette Chauncy Street SE SCOR
4555	Boston Housing Authority 50 Chauncy Street Boston, MA 02111	50-56 Chauncy Street
4556	Chauncy Associates GPS 38 Chauncy Street Boston, MA 02111	42-48 Chauncy Street
4557	Roger Freedman PT 22 Chauncy Street Boston, MA 02111	22-40 Chauncy Street
4560	Charlestown Savings Bank 20 Chauncy Street Boston, MA 02111	4-20 Chauncy Street S COR Summer Street
4828	Harry H. Levin, Trustee Box 459 99 Chauncy Street Boston, MA 02111	523-525 Washington Street
4829	Beldekas Enterprises, Inc. 533 Washington Street Boston, MA 02111	531-533 Washington Street

* Information compiled from the most recent Assessor's List.

WARD 3

Parcel	Abutters	Property Affected
4830	Opera Co. of Boston, Inc. 537 Washington Street Boston, MA 02111	537-541 Washington Street
4831	Henry H. Levin, Trustee Box 459 99 Chauncy Street Boston, MA 02111	543-547 Washington Street
4832	Real Property Board City of Boston City Hall Plaza Boston, MA 02201	549-559 Washington Street
4833	Royal Investment Inc. C/o Royal Investment 1377 Atwood Avenue Johnston, RI 02919	565-567 Washington Street
4834	J. Miller Blew, Trustee 569 Washington Street Boston, MA 02111	569-573 Washington Street
4827	Harry H. Levin, Trustee Box 459 99 Chauncy Street Boston, MA 02111	515-521 Washington Street
4811	W & T Associates 39 Brighton Avenue Allston, MA 02134	501-507 Washington Street
4810	W & T Associates 39 Brighton Avenue Allston, MA 02134	485-499 Washington Street 59-63 Temple Place
4785	Temple Place Associates LPS c/o Ferris Co., 7th Floor 27 State Street Boston, MA 02109	477-481 Washington Street
4784	Samuel H. Wolcott, Jr., Trustee 230 Congress Street Boston, MA 02110	467-469 Washington Street

WARD 3

Parcel	Abutters	Property Affected
4783	Dexter Associates Ltd. 1 Federal Street Boston, MA 02110	543-461 Washington street
4782	Dexter Associates Ltd. 1 Federal Street Boston, MA 02110	449-451 Washington street
4781	Sally A. Starr 39 Brighton Avenue Allston, MA 02134	443-447 Washington Street 10 Winter Street
4585	Federated Department Stores, Inc. c/o Gummere 426 Washington Street Boston, MA 02108	422 Washington Street
4586	Federated Department Stores, Inc. c/o Gummere 426 Washington Street Boston, MA 02108	414-420 Washington Street
4835	Norma S. Hanson, Trustee Box 1704 Boston, MA 02105	575-585 Washington Street N. COR NES Avery Street
4868	Herbert G. Perry, Trustee c/o Herbert G. Perry 20 Winthrop Square Boston, MA 02110	597-603 Washington Street
4869	A.W. Perry, Inc. Mass. Corp. c/o A.W. Perry, Inc. 20 Winthrop Square Boston, MA 02110	607-611 Washington Street
4486	Six Hundred Washington-LPS c/o 600 Washington Associates LP 600 Washington Street Boston, MA 02111	588-622 Washington Street S COR 26-44 Essex Street
4597	Lincoln Franklin Place Ltd. c/o Property Tax Service Box 723548 Atlanta, GA 30339	26-36 Summer Street

WARD 3

Parcel	Abutters	Property Affected
4583	Federated Department Stores c/o Gummere 426 Washington Street Boston, MA 02108	22-24 Summer Street N COR
4594	Maxwell S. Beal, Trustee 38 Summer Street Boston, MA 02110	38 Summer Street
4593	Herbert G. Perry, Trustee 44 Bromfield Street Boston, MA 02108	40 Summer Street
4505	Chauncy Street Associates-LPS 105 Chauncy Street Boston, MA 02110	105-111 Chauncy Street
4738	Bertram Drucker, Trustee c/o Drucker Company 50 Federal Street Boston, MA 02110	413-425 Washington Street 431-435 Washington Street 1-11 Winter Street 1-2 Music Hall Place Hamilton Place
4584	Equitable Life Assurance Society c/o Gummere 426 Washington Street Boston, MA 02110	8-20 Summer Street 426 Washington Street
4587	Equitable Life Assurance Society c/o Gummere 426 Washington Street Boston, MA 02110	400 Washington Street 81 Hawley Street
4809	Fifty-5 Temple Place Assn. 55 Temple Place Boston, MA 02111	55 Temple Place
4809-10	Sunita Tulli 55 Temple Place Boston, MA 02111	55 Temple Place Unit 55-B
4809-20	Sunita Tulli 55 Temple Place Boston, MA 02111	55 Temple Place Unit 55-5S

WARD 3

Parcel	Abutters	Property Affected
4809-30	Sunita Tulli 55 Temple Place Boston, MA 02111	55 Temple Place Unit 55-1
4809-40	Alexander V. Randall, Trustee 55 Temple Place Boston, MA 02111	55 Temple Place Unit 55-2
4809-50	Douglas S. Fischer, et al. 55 Temple Place Boston, MA 02111	55 Temple Place Unit 55-3
4809-60	Borisa Novak 55 Temple Place Boston, MA 02111	Unit 55-4
4809-70	Richard M. Passalacqua, et al. 55 Temple Place Boston, MA 02111	Unit 55-5
4809-80	Barbara T. Happeny, Trustee 55 Temple Place Boston, MA 02111	Unit 55-6
4809-90	Temple Place Management Corp. 55 Temple Place Boston, MA 02111	Unit 55-7
4867	Barry D. Hoffman D TS 24 Avery Street Boston, MA 02111	10-24 Avery Street
4977	Simon B. Gottlieb, Trustee c/o Stanhope Garage, Inc. 510 Commonwealth Avenue Boston, MA 02115	Harrison Avenue
4870	Bryan T. Rich 613 Washington Street Boston, MA 02111	613-615 Washington Street
4740	Richard Finn, Trustee 429 Washington Street Boston, MA 02110	427-429 Washington Street

WARD 3

Parcel	Abutters	Property Affected
4506	Chauncy House Co. LPS 115 Chauncy Street Boston, MA 02110	115-119 Chauncy Street 50 Essex Street 5-9 Harrison Avenue Ext.
4871	Norma S. Hanson, Trustee Box 1704 Boston, MA 02105	617-631 Washington Street
4875	Boston Redevelopment Authority 635 Washington Street Boston, MA 02111	635 Washington Street FRM NW COR
4786	Fifty-2 Temple Place Condo. Trust 52 Temple Place Boston, MA 02111	52-58 Temple Place
4786-2	Harvey Moore, Trustee 52 Temple Place Boston, MA 02111	52 Temple Place Unit 1
4786-4	Richard J. Morris 52 Temple Place Boston, MA 02111	52 Temple Place Unit 2
4786-6	Harvey Moore, Trustee 52 Temple Place Boston, MA 02111	52 Temple Place Unit 3
4786-8	Jeremy Stahlin, Trustee 52 Temple Place Boston, MA 02111	52 Temple Place Unit 4
4570	Forty-Three Kingston Street 43 Kingston Street Boston, MA 02111	43 Kingston Street
4513	Boston Edison c/o Real Property & Taxes 800 Boylston Street Boston, MA 02199	Avenue de Lafayette
4592	Union Warren Savings Bank 50 Summer Street Boston, MA 02110	48-50 Summer Street

WARD 3

Parcel	Abutters	Property Affected
4593	Herbert G. Perry, Trustee 44 Bromfield Street Boston, MA 02108	40-46 Summer Street
4607	Bertram A. Druker, Trustee 50 Federal Street Boston, MA 02110	128-130 Arch Street 52-56 Summer Street
4812	Brattle Book Shop, Inc. 5 West Street Boston, MA 02111	5-7 West Street
4826	Henry H. Levin, Trustee Box 459 99 Chauncy Stret Boston, MA 02112	10-12 West Street 511 Washington Street

APPENDIX G-4
CITY AGENCIES AND COMMUNITY GROUPS

Boston Redevelopment Authority
Office of Arts and Humanities
Midtown Cultural District Task Force
- Design and Development
- Cultural Facilities
- Trust and Funding
- Visual Arts

Chinatown Neighborhood Council
- Land Use
- Social Service
- Business and Development

Mayor's Office of Neighborhood Services
Boston Preservation Alliance
Massachusetts Historical Commission
Mayor's Office of Jobs and Community Services
Boston Coordinating Committee
Friends of the Boston Common
Downtown Crossing Association
Boston Opera Company
Steinert Hall (owners)
Boston Theater District Association
Boston Society of Architect
Tremont-on-the-Common
Jordan Marsh and Company
Massachusetts Bay Transit Authority
Boston Transportation Department
City Councilors, State Representatives

APPENDIX H

MEETINGS TO DATE
WITH INTERESTED PARTIES

APPENDIX H
MEETINGS TO DATE WITH INTERESTED PARTIES

DATE	GROUP	TOPIC
4/1/88	A.W. Perry	Presentation of project concept to abutters
4/27/88	Downtown Crossing Association (DCA)	Annual Meeting
5/12/88	Boston Transportation Department (BTD) Richard Dimino	Presentation of project concept and transportation issues
6/16/88	Boston Redevelopment Authority (BRA) meeting with staff	Preliminary discussion
7/11/88	The Druker Co. Ronald Druker	Midtown Cultural District
7/11/88	Midtown Cultural District (MCD) Task Force, Larry Murray	Midtown Zoning
7/13/88	Councillor James Kelly	Preliminary discussion of Boston Crossing and jobs benefits
7/14/88	BRA Board Meeting	Midtown Cultural District Zoning
7/19/88	BRA	Design Review
7/19/88	Office of Arts and Humanities (OAH) Bruce Rossley	Cultural Benefits
7/26/88	MCD Task Force	Bi-monthly MCD Task Force meeting
7/27/88	Office of Jobs & Community Services	Community Benefits
8/2/88	MCD Task Force	Zoning
8/3/88	Ben Thompson Architects	Presentation of MCD Plan and Boston Crossing program
8/5/88	Office of Jobs & Community Services	Community Benefits
8/9/88	MCD Task Force	Trust and Funding Meeting
8/11/88	MBTA, Peter Scarpignato	Transportation
8/12/88	Downtown Crossing	Issues Forum

DATE	GROUP	TOPIC
8/16/88	BRA Staff and Robert Brannigan	Theatre
8/18/88	MCD Transportation Subcommittee	Transportation
8/22/88	BRA Staff	Project Related Issues
8/24/88	BRA Staff & F.D. Rich	Joint Design Review
8/25/88	Chinese Neighborhood Council (CNC)	Community Benefits
8/26/88	MCD Task Force	Zoning
8/29/88	BRA	Community Benefits
9/7/88	MCD Task Force Design and Development Subcommittee	Design and Development
9/7/88	BRA Staff	Project Notification Form
9/9/88	BRA Director	Project Notification Form
9/13/88	MCD Trust and Funding Subcommittee	Trust and Funding
9/16/88	BRA Staff	Project Notification Form
9/19/88	Boston BTD Richard Dimino	Westbound Demand
9/20/88	MCD Task Force Facilities Subcommittee	Cultural Facilities
9/22/88	BTD Staff	Westbound Demand
9/22/88	BRA Board	Chinatown R-3/R-3A
9/27/88	F.D. Rich	Presentation of Commonwealth Center
9/29/88	MCD Task Force Leaders Larry Murray Judee Shupe	Presentation of Boston Crossing
10/3/88	Swissotel (Nissan, Chovanec)	Presentation of Boston Crossing
10/3/88	MCD Task Force Design & Development Subcommitte	Presentation of Boston Crossing
10/4/88	Lafayette Place Tenants	Presentation of Boston Crossing
10/7/88	MCD Task Force Design and Development Subcommittee	Design and Development

DATE	GROUP	TOPIC
10/10/88	Office of Neighborhood Services, Yon Lee	Presentation of Boston Crossing
10/11/88	MCD Task Force, Trust and Funding	Trust and Funding
10/12/88	Chinese Consolidated Benevolent Association (CCBA)	Transportation Impacts of MCD on Chinatown
10/12/88	Downtown Athletic Club	Presentation of Boston Crossing and possible location of the Club in the Boston Crossing project
10/13/88	Chinese Neighborhood Council Business Leaders	Presentation of Boston Crossing
10/14/88	Boston Preservation Alliance	Presentation of Boston Crossing
10/14/88	BRA Staff	Zoning
10/18/88	MCD Task Force Facilities Subcommittee	Cultural Facilities
10/19/88	DCA	Downtown Issues Forum Wallance Floyd Plan
10/21/88	DCA	Presentation of Boston Crossing
10/24/88	BRA Staff	Presentation of Boston Crossing
10/25/88	Office of Neighborhood Services Yon Lee, Don Gillis, John Riordan	Presentation of Boston Crossing
10/26/88	Downtown Crossing Board	Presentation of Boston Crossing
10/28/88	MBTA and BRA	Green Line Station at Bloomingdale's
11/1/88	Boston Preservation Alliance	Presentation of Boston Crossing
11/1/88	Leslie Larson, Historic Preservationist	Presentation of Boston Crossing
11/1/88	BRA Staff	Project Update
11/7/88	BRA Staff	Presentation of Boston Crossing Community Benefits
11/8/88	MBTA	Possibility of MBTA Station at Boston Crossing

DATE	GROUP	TOPIC
11/8/88	Office of Jobs and Community Service	Job Training Programs
11/8/88	Friends of the Public Garden	Presentation of Boston Crossing
11/9/88	MBTA and Ira Sutton of Hub Club	Presentation of Boston Crossing
11/9/88	Labor Unions - Labor Leaders	Increase in Construction Jobs
11/10/88	CNC Social Service Subcommittee	Social Service Programs
11/15/88	BRA Staff	Development Issues
11/16/88	MCD Task Force	Presentation of Boston Crossing
11/17/88	Boston Jobs Academy	Employment training
11/18/88	F.D. Rich and Traffic Consultants	Traffic
11/19/88	BRA	Midtown Zoning
11/21/88	BRA	Design Review
11/22/88	MCD Task Force Facilities Subcommittee	Cultural Facilities
11/29/88	MCD Task Force Design and Development Subcommittee	Design and Development
11/29/88	Boston Society of Architects (BSA) Committee, Todd Lee, Chairman	Presentation of Boston Crossing
11/29/88	Lincoln Properties/Metropolitan Life	Presentation
11/29/88	MCD Task Force	Chinatown Planning
11/30/88	Kingston Bedford, F.D. Rich	Areawide Transportation Issues
12/1/88	MCD Task Force	Zoning Review, Cultural Facilities Subcommittee
12/1/88	Midtown Developers at Bruce Campbell Association	Transportation Impacts
12/6/88	MCD Task Force, Facilities Subcommittee	Cultural Facilities
12/7/88	BRA, MCD Task Force	Stephen Coyle Presentation to Task Force
12/8/88	BRA, Stephen Coyle	Public Benefits
12/8/88	BRA Board Meeting	Public Hearing on Zoning

DATE	GROUP	TOPIC
12/13/88	MCD Facilities Subcommittee	Presentation of Boston Crossing
12/16/88	MCD Task Force Design and Development Subcommittee	Design and Development
12/16/88	Midtown Developers	Areawide Linkage Contributions
12/19/88	MCD Task Force Facilities Subcommittee	Cultural Facilities
12/22/88	Councillor Kelly	Construction Jobs
1/6/89	W.T. Chandler	Review of Proposed Zoning Impact on Boston Crossing
1/10/89	Chinatown Neighborhood Council	Discussion of Community Benefits
1/10/89	Mayor Flynn with Robert Campeau	Project Update
1/12/89	Labor Unions	Presentation of Boston Crossing
1/12/89	BRA Board	Public Hearing on Zoning
1/17/89	BRA Staff	Review of Chinatown Benefits Package
1/17/89	Chinatown Community Meeting	Presentation of Boston Crossing
1/19/89	Tremont-on-the-Common	Presentation of Boston Crossing
1/19/89	Metropolitan Structure & F.D. Rich	Development Issues
1/31/89	Tremont-on-the-Common Residents	Presentation of Boston Crossing
1/31/89	Office of Jobs & Community Services & Boston Jobs Academy	Retail Training Programs
2/2/89	MCD Leaders Judee Shupe, Dona Sommers	Boston Crossing's Theater Contribution
2/9/89	Chinese Economic Development Council	Review of Parcel R-3/R-3A
2/9/89	BRA Staff	Public Benefits
2/9/89	Building Owners and Managers	Child Care
2/10/89	BRA Staff	Design & Benefits Review
2/10/89	MCD Task Force Subcommittee	Cultural Facilities

DATE	GROUP	TOPIC
2/13/89	MCD Task Force Subcommittee	Cultural Facilities
2/13/89	BRA Staff	Opera House Update
2/15/89	Jordan Marsh	Presentation of the Boston Crossing Jordan Marsh Plan
2/22/89	Office of Arts and Humanities	Update on Theater Contribution
2/23/89	MBTA - Joe Aiello	Public Transit
2/23/89	Met Structures and F.D. Rich	Chinatown Business Association
2/24/89	BRA Staff	Project Review
2/28/89	BRA Staff	Project Review
3/1/89	Downtown Crossing Association	Seminar on Future Improvements of Area
3/2/89	Asian CDC	Project Update on R-3/R-3A
3/2/89	MIT	Tour of "The Cube" Theater
3/3/89	BRA Staff	Project Review
3/7/89	Massachusetts Historical Commission	Introduction to the Boston Crossing Project
3/8/89	MBTA	Garage Venting
3/9/89	BRA	Project Review
3/10/89	Steinert Hall	Tour of Steinert Hall
3/14/89	BRA - Staff	Project Review
3/15/89	BRA	Design Review
3/16/89	MCD Task Force Subcommittee	Design Development Meeting
3/31/89	BRA Staff	Project Update
3/31/89	American Collegiate Retailers Associates	Presentation of Boston Crossing
4/4/89	Bill Moy	Chinatown Issues
4/7/89	BRA Staff	Design Review

DATE	GROUP	TOPIC
4/7/89	Midtown Developers'	
4/11/89	BRA Child Care Subcommittee	Child Care
4/12/89	MCD Task Force Design and Development Subcommittee	Cultural Facilities
4/13/89	Lyric Stage, Thalia Tringo	Presentation of Boston Crossing
4/15/89	Action for Boston Community Development	Job Training Skills
4/18/89	Lafayette Hotel Management	Presentation of Boston Crossing
4/19/89	BRA/BSA Focus Team	Focus Meeting
4/24/89	Training, Inc. YMCA	Job Training
4/26/89	Downtown Crossing Association	Stephen Coyle, Future Plans for Boston
4/27/89	Museum of Fine Arts, Alan Shestark	Presentation of Boston Crossing
4/28/89	BRA Staff	Design Review
5/1/89	Boston Jobs Academy, Jim Marshall	
5/2/89	BRA Child Care Subcommittee	Child Care
5/2/89	BRA Staff	Design Review
5/2/89	BRA Staff	Facilities Presentation
5/5/89	BRA Staff	Presentation of Draft Project Impact Report (shadows, daylight)
5/8/89	Office of Jobs and Community Services	Job Training Programs
5/8/89	Larry Murray	Cultural Facilities
5/9/89	Dona Sommers, Judee Shupe	Cultural Facilities
5/9/89	OAH	Theatre Presentation
5/10/89	BRA	Design Review, D. Childs
5/12/89	OAH	Theatre Details Discussion

DATE	GROUP	TOPIC
5/22/89	BRA, B. Whitney	Schedule Update
5/23/89	MCD Task Force	Cultural Facilities
5/24/89	BSA, D. Childs	Focus Meeting
5/26/89	BRA, SOM	Historic Resources
5/30/89	MCD, Todd Lee	Cutlural Facilities
5/31/89	BRA	Transportation, Air Quality
5/31/89	BRA, Robbin Peach	Visual Arts
6/1/89	MCD	Presentation of Boston Crossing
6/1/89	Friends of the Common and Garden	Presentation of Boston Crossing
6/2/89	Action for Boston Community Development (ABCD)	Project Review
6/5/89	Tenants of Stearns Bldg.	Presentation of Boston Crossing
6/6/89	BRA	Wind Impacts
6/6/89	Labor Unions	Project Update
6/7/89	Mass. Historical Commission	Project Update
6/7/89	New England Women in Real Estate, John Boorn	Presentation of Project and Campeau
6/7/89	BRA	Design Review
6/8/89	Trement-on-the-Common Tenants	Project Update
6/8/89	Friends of the Common and Garden	Review of Shadow Impacts
6/9/89	Neighborhoods Jobs Trust	Jobs Program
6/9/89	Boston Preservation Alliance	Project Update
6/12/89	BSA	Focus Meeting
6/12/89	Chinatown	Preliminary Approval of Project
6/13/89	BTD	Project Update
6/14/89	MCD Task Force, BTD, R. Diminio	Transportation

DATE	GROUP	TOPIC
6/15/89	BRA Board	Public Hearing
6/19/89	MBTA	Egress Upgrade Review; Tunnel Discussion
6/20/89	BSA	Project Update
6/22/89	BRA, Childcare Subcommittee	Childcare Mtg.
6/22/89	MBTA	Review of Downtown Crossing Station
6/23/89	BRA, Greenspace Alliance	Project Update
6/27/89	ABCD Board	Discussion of Neighborhood Benefit Opportunities
6/27/89	MBTA	Hayward Place Program
6/29/89	BRA Board	Public Hearing
7/6/89	BRA	Streetscape Guidelines
7/11/89	DCA and MCD Task Force	Transportation
7/12/89	Priscilla Golding, Women in the Building Trades	Project Update
7/12/89	BRA, Kristen McCormack	Benefits Package
7/14/89	BTD, R. Dimino	Traffic Planning, Subways
7/17/89	Tremont-on-the-Common, Carol Thomas, Resident	Project Update
7/18/89	BTD, Dimino, Shao	Traffic Planning, Subways
7/19/89	Midtown Developers and MCD Visual Arts	Open Spaces in Midtown
7/20/89	BRA, Pam Wessling, Homer Russell	Project Update
7/21/89	BTD, R. Dimino	Traffic and Garage Planning
7/21/89	BRA	Project Update
7/27/89	BRA	Design Review
7/27/89	Zoning Board of Approvals	Zoning Hearing

DATE	GROUP	TOPIC
8/1/89	Mass. Historical Commission	Project Update
8/3/89	Boston for Boston	Job Training Programs
8/16/89	BRA	Design Review
8/18/89	BRA	Progress Review
8/24/89	BRA	Project Update
8/24/89	BTD, R. Dimino	MBTA, Traffic and Garage Program
8/25/89	BRA	26 West Street
8/30/89	BRA	Design Review
9/12/89	BRA	Public Improvement Commission
9/12/89	Public Facilities Commission	Presentation of Boston Crossing
9/13/89	BRA	Design Review
9/19/89	Midtown Developers	Construction Impact Mitigation
9/19/89	BTD	Present Streetscape Plans
9/19/89	DCA	Construction Traffic Mgmt.
9/22/89	MBTA	Construction Schedule, Hayward Place
9/22/89	BTD	Construction Schedule
9/27/89	BRA	Design Review
10/5/89	Midtown Developers	Transportation Management Association
10/10/89	BRA	Wind Impacts
10/16/89	Midtown Developers	Transportation Management Association
10/23/89	DCA	Project Update
10/24/89	BRA	Program Update
11/1/89	BRA, BTD, DPW, DCA, Midtown Developers	Sidewalks

DATE	GROUP	TOPIC
11/7/89	Midtown Developers	Transportation Management Association
11/10/89	MBTA	Hayward Place Egress
11/16/89	Jobs Trust	Public Hearing
11/17/89	BTD, R. Dimino	Parking Bank
11/21/89	BRA	Parking Update
11/27/89	Miller Blew, Abutter	Construction Period Traffic
11/28/89	A.P. Levin Assoc., Abutter	Construction Period Traffic
11/30/89	Amerimar Assoc., Abutter	Construction Period Traffic

APPENDIX I

BOSTON LANDMARKS COMMISSION
CATEGORIES OF HISTORIC SIGNIFICANCE

APPENDIX I
BOSTON LANDMARKS COMMISSION
CATEGORIES OF HISTORIC SIGNIFICANCE

CLASS I. BUILDINGS OF MAJOR SIGNIFICANCE, as the City's most outstanding examples of their style or building type, distinguished for high architectural quality and high degree of intactness; or as early or rare examples of use of a particular style or building technology in Boston, or as buildings outstanding in their setting, with particular urban design value, or as buildings of the highest regional or local historical significance.

CLASS II. BUILDINGS OF SIGNIFICANCE TO THE CITY, as fine examples of the work of Boston architects; as buildings which make an important contribution to the character of a street or area; or as buildings with strong historical associations with major Boston, or as fine examples of a particular style or building type.

CLASS III. CONTRIBUTING BUILDINGS, a) Post-Fire Period, b) Late Nineteenth- and Early Twentieth-Century: important to the character of their particular street, neighborhood, or area as an integral part of a visually cohesive streetscape or integral element within a district; as buildings with some individual architectural distinction, whether because of their materials, craftsmanship or detailing; as the best examples in their area of a particular style or building type, or as buildings with some local historical significance. Also within this category are buildings which make a minor contribution to the streetscape as buildings which are compatible with surrounding structures in scale, style, materials, or fenestration patterns, or as buildings with some architectural interest or integrity.

APPENDIX J-1 NO-BUILD SEASONAL AND ANNUAL WIND LEVELS (REFLECTING REVISED COMMONWEALTH CENTER PROJECT)

J-2 PROPOSED PROJECT SEASONAL AND ANNUAL WIND LEVELS (REFLECTING REVISED COMMONWEALTH CENTER PROJECT AND AMENDED BOSTON CROSSING PROJECT)

J-3 RAW DATA

J-4 PEDESTRIAN SAFETY / COMFORT WIND STANDARDS

APPENDIX J-1

Line 75 Col 1 Overwrite Indent C:NB01_22F.2P
nb01_22f.2L

Vmean (mph)

Point Location # 1

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.158	6.307	6.006	5.683	6.037
15%	13.147	13.010	12.945	12.205	12.824
10%	15.378	15.302	15.153	14.133	14.967
5%	18.938	19.236	18.685	17.181	18.500
1%	26.043	27.665	25.825	23.151	25.773

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	9.304	9.917	9.312	8.288	9.210
20%	15.714	15.937	15.665	14.253	15.430
15%	17.584	17.784	17.498	15.926	17.210
5%	24.379	24.713	24.093	21.853	23.772
1%	33.088	34.380	32.731	29.254	32.657

Line 54 Col 1 Insert Indent C:NB02_07B.2P

Vmean (mph)

Point Location # 2

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.989	4.710	4.137	3.477	4.070
15%	8.064	8.574	8.055	7.210	7.992
10%	9.394	9.784	9.322	8.407	9.249
5%	11.547	11.885	11.442	10.321	11.325
1%	16.135	16.807	16.406	14.284	15.953

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.973	8.240	7.177	6.008	7.086
20%	11.720	12.839	11.935	10.381	11.730
15%	13.039	14.055	13.258	11.604	13.059
5%	17.835	18.547	17.958	15.899	17.660
1%	24.400	25.152	24.610	21.339	23.934

APPENDIX J-1

Line 76 Col 1 Insert Indent C:NB03_11B.2P

Vmean (mph)

Point Location # 3

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.130	5.500	5.181	4.425	5.043
15%	10.567	11.045	10.534	9.525	10.439
10%	12.266	12.813	12.183	11.069	12.038
5%	15.015	15.720	14.876	13.611	14.827
1%	20.767	22.057	20.530	18.565	20.575

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	8.430	9.365	8.593	7.165	8.365
20%	14.135	15.443	14.338	12.369	14.116
15%	15.724	17.096	15.975	13.820	15.716
5%	21.169	22.827	21.493	18.810	21.135
1%	27.951	30.135	28.383	24.870	28.038

Line 55 Col 1 Insert Indent C:NB04_31B.2P

Vmean (mph)

Point Location # 4

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.358	5.384	4.556	3.718	4.465
15%	8.147	9.463	8.625	6.949	8.369
10%	9.138	10.499	9.750	7.840	9.436
5%	10.873	12.017	11.536	9.201	11.064
1%	14.823	15.015	15.141	11.910	14.542

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.398	9.008	7.683	6.317	7.546
20%	12.159	14.082	12.736	10.447	12.421
15%	13.407	15.344	14.059	11.507	13.681
5%	17.626	19.362	18.570	14.960	17.880
1%	23.507	23.932	24.100	19.150	23.133

APPENDIX J-1

Line 54 Col 1 Insert Indent C:NB05_16F.2P

Vmean (mph)

Point Location # 5

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.777	4.324	3.960	3.218	3.804
15%	7.152	7.588	7.257	6.060	7.026
10%	8.245	8.535	8.178	6.915	7.961
5%	10.124	10.069	9.690	8.322	9.616
1%	15.301	13.506	12.810	11.207	13.225

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.488	7.450	6.773	5.434	6.523
20%	10.606	11.562	10.831	8.388	10.571
15%	11.731	12.618	11.950	9.926	11.639
5%	15.890	16.207	15.552	13.156	15.337
1%	22.892	20.866	19.959	17.305	20.385

Line 76 Col 1 Insert Indent C:NB06_40F.2P

Vmean (mph)

Point Location # 6

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.582	2.807	2.598	2.378	2.591
15%	5.491	5.936	5.558	4.819	5.470
10%	6.364	6.941	6.516	5.550	6.349
5%	7.750	8.417	8.002	6.656	7.750
1%	10.678	11.255	11.153	8.953	10.668

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.094	5.657	5.138	4.631	5.114
20%	9.141	10.170	9.218	8.104	9.131
15%	10.317	11.472	10.486	9.062	10.324
5%	14.313	15.684	14.934	12.335	14.415
1%	19.334	20.559	20.561	16.276	19.509

APPENDIX J-1

Line 76 Col 1 Insert Ident C:NB02_07B.3P

Vmean (mph)

Point Location # 7

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.035	4.390	4.161	3.525	4.010
15%	8.837	8.658	8.545	7.547	8.416
10%	10.506	10.158	9.913	8.842	9.855
5%	13.017	12.651	12.130	10.875	12.188
1%	18.640	17.881	16.609	14.842	17.079

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.784	7.479	6.984	5.854	6.760
20%	11.776	12.010	11.743	9.976	11.418
15%	13.263	13.353	13.039	11.195	12.750
5%	18.740	18.359	17.670	15.520	17.625
1%	26.557	25.229	23.534	20.838	24.205

Line 76 Col 1 Insert Ident C:NB43_08F.3P

Vmean (mph)

Point Location # 8

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.703	4.338	3.883	3.232	3.766
15%	6.976	7.896	7.279	5.952	7.036
10%	8.020	8.950	8.347	6.785	8.056
5%	9.914	10.668	10.105	8.051	9.737
1%	16.833	13.956	13.950	10.855	13.827

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.355	7.474	6.632	5.508	6.453
20%	10.482	11.358	10.835	8.958	10.582
15%	11.650	13.210	12.022	9.907	11.751
5%	16.039	17.482	16.458	13.132	15.962
1%	24.358	22.533	22.331	17.377	21.867

APPENDIX J-1

Line 76 Col 1 Insert Indent C:NB03_11B.3P

Vmean (mph)

Point Location # 11

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.591	4.450	3.816	2.970	3.689
15%	7.131	8.016	7.453	6.145	7.282
10%	8.320	9.042	8.538	7.128	8.352
5%	10.237	10.784	10.336	8.803	10.118
1%	14.680	14.769	14.966	12.425	14.316

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.190	7.621	6.557	5.201	6.354
20%	10.641	12.033	11.054	9.058	10.807
15%	11.884	13.282	12.311	10.160	12.008
5%	16.666	17.426	16.862	14.123	16.424
1%	23.773	23.254	23.749	19.492	22.760

Line 76 Col 1 Insert Indent C:NB03_16F.3P

Vmean (mph)

Point Location # 16

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	1.928	1.941	1.902	1.871	1.912
15%	5.210	4.841	4.915	4.651	4.888
10%	6.419	5.945	5.966	5.600	5.956
5%	8.486	8.009	7.812	7.132	7.864
1%	12.931	12.485	11.941	10.574	12.011

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.546	3.649	3.531	3.357	3.526
20%	7.458	7.053	7.169	6.703	7.071
15%	8.766	8.264	8.394	7.741	8.275
5%	13.936	13.032	12.906	11.642	12.876
1%	21.535	19.800	19.148	16.702	19.388

APPENDIX J-1

Line 77 Col 1 Insert Indent C:NB04_31B.3P

Vmean (mph)

Point Location # 31

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.285	2.632	2.193	2.099	2.307
15%	5.911	6.492	5.867	5.410	5.909
10%	6.922	7.532	6.965	6.296	6.926
5%	8.532	9.080	8.750	7.663	8.543
1%	11.678	12.222	12.264	10.310	11.714

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.436	5.201	4.449	4.019	4.541
20%	8.313	9.837	8.816	7.349	8.879
15%	10.138	11.998	10.099	9.012	10.097
5%	14.247	15.207	14.611	12.543	14.205
1%	19.325	19.962	20.201	16.623	19.223

Line 76 Col 1 Insert Indent C:NB06_40F.3P

Vmean (mph)

Point Location # 40

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.861	4.658	4.007	3.223	3.907
15%	7.039	8.077	7.597	6.068	7.264
10%	7.899	8.969	8.518	6.847	8.143
5%	9.271	10.430	9.304	8.043	9.584
1%	12.294	13.455	12.814	10.904	12.611

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.764	8.051	6.965	5.707	6.832
20%	11.033	12.578	11.684	9.601	11.278
15%	12.122	13.693	12.840	10.582	12.400
5%	15.764	17.386	16.631	13.854	16.093
1%	20.380	21.928	21.099	18.068	20.710

APPENDIX J-1

Line 76 Col 1 Insert Indent C:NB41_46B.2P

Vmean (mph)

Point Location # 41

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.140	5.927	5.200	4.594	5.199
15%	10.276	11.354	10.464	9.055	10.312
10%	11.769	12.800	11.991	10.301	11.765
5%	14.206	14.991	14.518	12.195	14.054
1%	19.852	19.344	19.719	15.960	18.911

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.661	8.839	7.774	6.729	7.728
20%	12.900	14.455	13.142	11.427	12.989
15%	14.360	15.925	14.676	12.672	14.455
5%	19.473	20.791	20.027	16.827	19.433
1%	26.590	26.521	26.912	21.849	25.783

Line 76 Col 1 Insert Indent C:NB43_08F.2P

Vmean (mph)

Point Location # 43

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.432	2.717	2.383	2.327	2.480
15%	7.080	6.720	6.538	7.070	6.855
10%	9.033	8.721	8.408	8.764	8.740
5%	12.060	12.137	11.482	11.339	11.742
1%	17.807	18.833	17.649	16.177	17.644

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.521	5.063	4.469	4.236	4.593
20%	9.576	9.553	9.099	9.428	9.419
15%	11.462	11.300	10.874	11.103	11.181
5%	18.027	18.388	17.541	16.684	17.633
1%	25.569	27.085	25.551	23.003	25.377

APPENDIX J-1

Line 76 Col 1 Insert Indent C:NB41_46B.3P

Vmean (mph)

Point Location # 46

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.744	3.524	2.903	2.170	2.779
15%	5.893	7.347	6.437	4.642	6.150
10%	6.301	8.374	7.552	5.517	7.216
5%	8.504	9.830	9.259	6.886	8.836
1%	11.633	12.860	12.624	9.677	11.973

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.163	6.506	5.492	4.112	5.226
20%	9.161	11.331	9.875	7.221	9.470
15%	10.358	12.603	11.171	8.184	10.721
5%	14.421	16.587	15.535	11.702	14.837
1%	19.402	20.971	20.558	15.863	19.762

APPENDIX J-2

Line 54 Col 1 Insert Indent C:BC01_22B.2P

Vmean (mph)

Point Location # 1

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.500	4.545	4.337	4.158	4.392
15%	11.084	10.708	10.572	10.246	10.650
10%	13.203	12.881	12.701	12.056	12.706
5%	16.514	16.514	16.004	14.893	15.957
1%	22.992	24.278	22.565	20.444	22.640

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.618	8.064	7.563	6.803	7.521
20%	13.819	13.932	13.528	12.405	13.431
15%	15.651	15.674	15.298	13.994	15.157
5%	22.229	22.207	21.603	19.656	21.439
1%	30.523	31.793	29.661	26.619	29.770

Line 76 Col 1 Insert Indent C:BC02_07F.2P

Vmean (mph)

Point Location # 2

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.020	5.305	5.352	3.995	4.988
15%	10.211	12.057	10.796	7.874	10.337
10%	11.855	13.742	12.473	9.178	11.935
5%	14.499	16.208	15.056	11.346	14.618
1%	20.136	20.800	20.043	15.686	19.686

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.743	9.027	8.179	6.269	7.714
20%	13.029	15.197	13.695	10.387	13.102
15%	14.561	16.858	15.233	11.558	14.666
5%	19.936	22.176	20.582	15.783	20.036
1%	27.591	28.084	27.004	21.192	26.656

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC03_11F.2P

Vmean (mph)

Point Location # 3

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.383	7.225	6.169	5.148	6.091
15%	12.673	14.254	13.100	11.120	12.840
10%	14.412	15.998	14.886	12.683	14.595
5%	17.052	18.706	17.615	15.032	17.260
1%	22.378	24.135	22.887	19.727	22.579

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	8.836	10.475	9.052	7.615	8.954
20%	15.323	17.271	15.850	13.528	15.550
15%	16.992	18.971	17.595	15.049	17.243
5%	22.655	24.649	23.317	20.155	22.871
1%	29.730	31.926	30.260	26.372	29.878

Line 76 Col 1 Insert Indent C:BC04_20B.2P

Vmean (mph)

Point Location # 4

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.778	4.450	4.039	3.177	3.823
15%	7.866	8.815	8.238	6.525	7.907
10%	9.323	10.133	9.701	7.638	9.274
5%	11.993	12.295	11.973	9.531	11.572
1%	19.856	17.544	16.905	13.839	17.134

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.376	7.423	6.735	5.417	6.445
20%	10.832	12.137	11.293	9.036	10.882
15%	12.120	13.512	12.598	10.141	12.149
5%	17.088	17.949	17.180	13.822	16.707
1%	26.255	23.867	23.038	18.750	23.182

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC05_16F.2P

Vmean (mph)

Point Location # 5

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.966	4.547	4.258	3.314	3.976
15%	8.349	8.349	8.643	6.767	8.221
10%	9.797	10.321	9.958	7.893	9.581
5%	12.246	12.552	12.146	9.826	11.798
1%	17.790	17.613	16.754	13.950	16.729

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.615	7.606	6.998	5.503	6.629
20%	11.315	12.531	11.816	9.336	11.295
15%	12.650	13.825	13.109	10.404	12.587
5%	17.578	18.351	17.593	14.231	17.128
1%	24.751	24.506	23.292	19.442	23.316

Line 76 Col 1 Insert Indent C:BC06_31F.2P

Vmean (mph)

Point Location # 6

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.874	5.438	5.145	4.057	4.859
15%	9.636	10.377	9.884	7.900	9.505
10%	11.104	11.815	11.275	9.053	10.889
5%	13.633	14.176	13.505	11.005	13.219
1%	19.253	19.043	18.089	15.446	18.204

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.466	8.538	7.842	6.250	7.474
20%	12.238	13.589	12.785	10.264	12.280
15%	13.627	14.898	14.079	11.349	13.582
5%	18.449	19.443	18.533	15.142	18.102
1%	25.460	25.308	24.097	20.396	24.153

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC02_07F.3P

Vmean (mph)

Point Location # 7

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.490	5.066	4.630	3.860	4.503
15%	8.804	9.358	8.844	7.685	8.707
10%	10.049	10.573	10.008	8.783	9.892
5%	12.077	12.517	11.893	10.553	11.817
1%	16.353	16.648	15.773	14.101	15.830

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	6.797	7.842	6.997	5.853	6.850
20%	11.374	12.430	11.574	9.932	11.378
15%	12.609	13.615	12.769	11.020	12.574
5%	16.903	17.659	16.855	14.776	16.662
1%	22.613	22.959	22.057	19.424	21.932

Line 76 Col 1 Insert Indent C:BC43_08B.3P

Vmean (mph)

Point Location # 8

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.726	2.944	2.790	2.466	2.735
15%	6.155	6.002	5.979	5.422	5.889
10%	7.296	7.075	6.983	6.327	6.908
5%	9.121	8.924	8.654	7.747	8.622
1%	13.295	12.887	11.985	10.550	12.254

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.931	5.571	5.041	4.399	4.970
20%	8.882	9.329	8.931	7.811	8.757
15%	10.009	10.380	9.990	8.766	9.807
5%	14.119	14.139	13.633	11.987	13.547
1%	19.961	19.427	18.394	15.914	18.568

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC04_20B.3P

Vmean (mph)

Point Location # 20

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.383	4.509	3.586	2.690	3.463
15%	7.421	9.284	8.172	5.875	7.730
10%	8.597	10.520	9.432	6.894	9.033
5%	10.403	12.331	11.461	8.561	10.946
1%	13.304	15.708	15.134	11.791	14.598

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.726	7.465	6.013	4.599	5.831
20%	10.405	13.032	11.280	8.301	10.821
15%	11.698	14.472	12.755	9.398	12.227
5%	15.960	18.948	17.608	13.237	16.859
1%	20.893	23.924	23.132	17.847	22.169

Line 76 Col 1 Insert Indent C:BC01_22B.3P

Vmean (mph)

Point Location # 22

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.007	3.712	3.319	2.409	3.043
15%	6.126	7.091	6.586	4.815	6.223
10%	7.075	7.999	7.527	5.587	7.160
5%	8.734	9.497	8.969	6.808	8.632
1%	12.717	12.507	12.049	9.572	11.923

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.373	6.554	5.774	4.325	5.435
20%	9.055	10.632	9.635	7.300	9.235
15%	10.051	11.653	10.731	8.105	10.256
5%	13.507	14.890	14.146	10.906	13.662
1%	18.351	18.634	18.194	14.378	17.801

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC06_31F.3P

Vmean (mph)

Point Location # 31

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.031	2.316	1.904	2.081	2.057
15%	6.285	6.905	6.202	5.752	6.283
10%	7.346	7.999	7.416	6.656	7.362
5%	8.907	9.662	9.231	7.953	8.949
1%	11.966	12.730	12.814	10.565	12.128

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.663	4.084	3.541	3.568	3.705
20%	8.495	9.318	8.220	7.722	8.425
15%	9.746	10.633	9.583	8.771	9.673
5%	13.752	14.697	14.044	12.070	13.699
1%	18.512	19.214	19.413	15.870	18.467

Line 76 Col 1 Insert Indent C:BC46_40B.3P

Vmean (mph)

Point Location # 40

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.945	3.829	3.271	2.269	2.965
15%	7.622	9.426	8.248	5.777	7.873
10%	8.960	10.784	9.705	6.969	9.299
5%	11.036	12.806	11.880	8.845	11.439
1%	15.277	16.708	16.073	12.565	15.589

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.072	6.312	5.513	3.968	5.112
20%	9.650	11.846	10.358	7.410	9.875
15%	10.980	13.260	11.762	8.532	11.281
5%	15.503	17.676	16.426	12.427	15.862
1%	21.205	22.737	21.895	17.123	21.320

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BCXX_41F.3P

Vmean (mph)

Point Location # 41

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.577	4.789	3.871	2.696	3.619
15%	9.474	12.045	10.625	7.333	10.042
10%	11.136	13.740	12.471	8.964	11.850
5%	13.791	16.215	15.154	11.410	14.515
1%	18.385	20.384	20.268	16.125	19.614

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.855	7.452	6.290	4.586	5.911
20%	11.007	13.903	12.117	8.582	11.500
15%	12.568	15.564	13.830	9.891	13.156
5%	17.724	20.663	19.330	14.678	18.555
1%	23.950	26.438	25.530	20.460	24.724

Line 76 Col 1 Insert Indent C:BC43_08B.2P

Vmean (mph)

Point Location # 43

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	1.843	1.985	1.818	1.788	1.861
15%	6.317	5.693	5.563	6.441	6.026
10%	8.263	7.888	7.565	7.993	7.939
5%	11.006	11.102	10.507	10.302	10.718
1%	16.069	16.974	15.924	14.593	15.915

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	3.793	4.231	3.763	3.583	3.848
20%	8.132	7.963	7.707	8.283	8.013
15%	10.032	9.671	9.390	9.960	9.786
5%	16.466	16.733	15.300	15.206	16.023
1%	23.246	24.629	23.205	20.858	23.035

APPENDIX J-2

Line 76 Col 1 Insert Indent C:BC46_40B.2P

Vmean (mph)

Point Location # 46

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	4.472	5.521	4.545	3.962	4.584
15%	8.775	10.605	9.288	7.882	9.163
10%	10.010	11.991	10.802	8.981	10.544
5%	12.028	14.188	13.322	10.775	12.738
1%	16.305	18.495	18.684	14.478	17.355

Vgust (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	7.150	8.657	7.282	6.310	7.305
20%	12.032	14.323	12.528	10.755	12.434
15%	13.393	15.842	14.037	11.937	13.851
5%	18.012	20.312	19.665	15.983	18.861
1%	23.891	26.861	27.054	21.035	25.263

APPENDIX J-2

Point Location # Rooftop Area between the Northern Component and Lafayette Place

Vmean (mph)

Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	2.845	3.097	3.053	2.434	2.841
15%	5.603	5.721	5.809	4.646	5.472
10%	6.627	6.647	6.729	5.406	6.379
5%	8.550	8.357	8.306	6.787	7.936
1%	13.737	12.328	11.852	10.157	12.059

Vgust (mph)

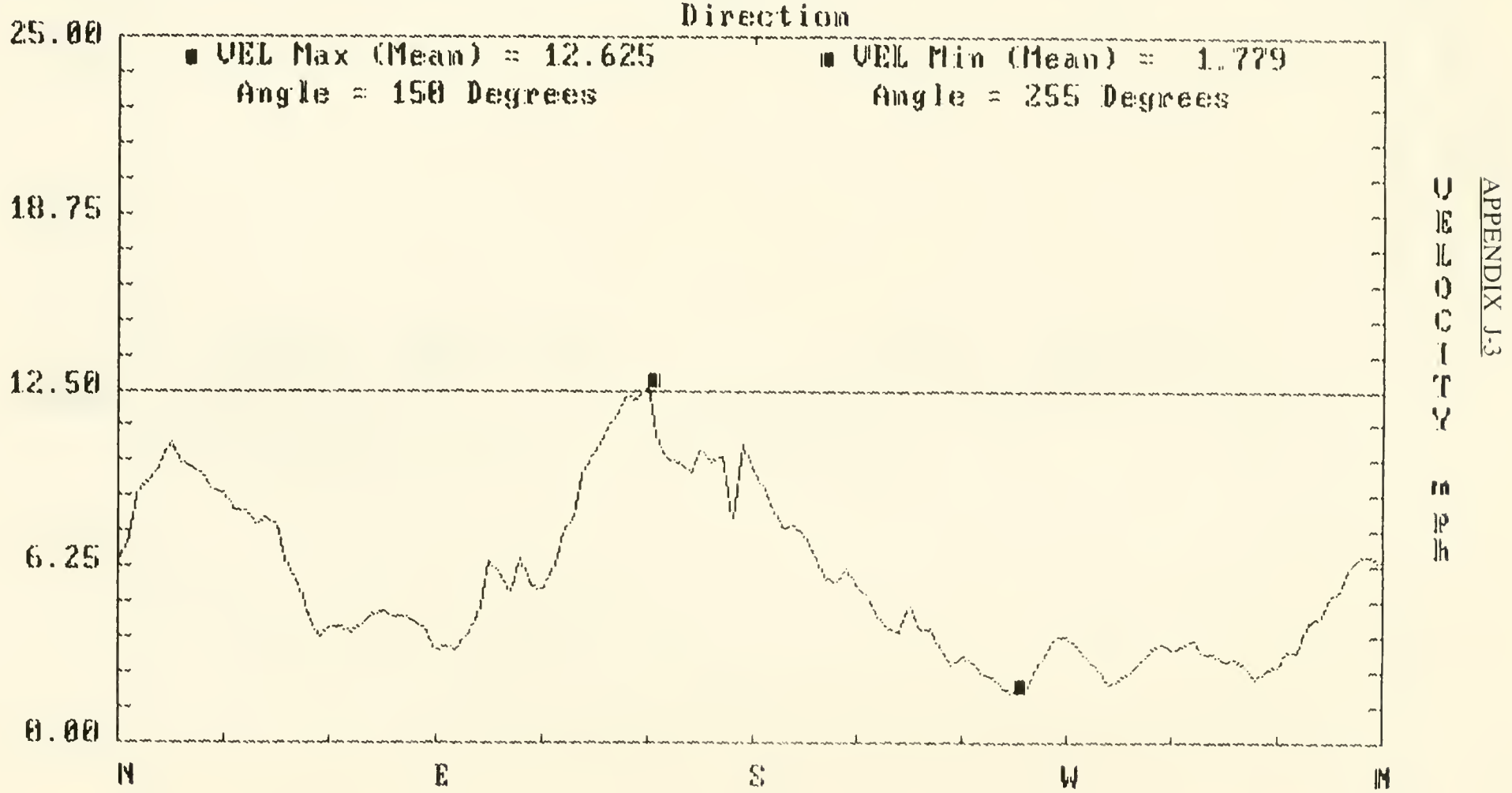
Probability	FALL	WINTER	SPRING	SUMMER	ANNUAL
50%	5.043	5.525	5.414	4.280	5.037
20%	8.423	8.757	8.824	7.035	8.237
15%	9.488	9.722	9.810	7.874	9.265
5%	13.969	13.674	13.520	11.128	13.133
1%	21.875	19.696	18.747	16.093	19.228

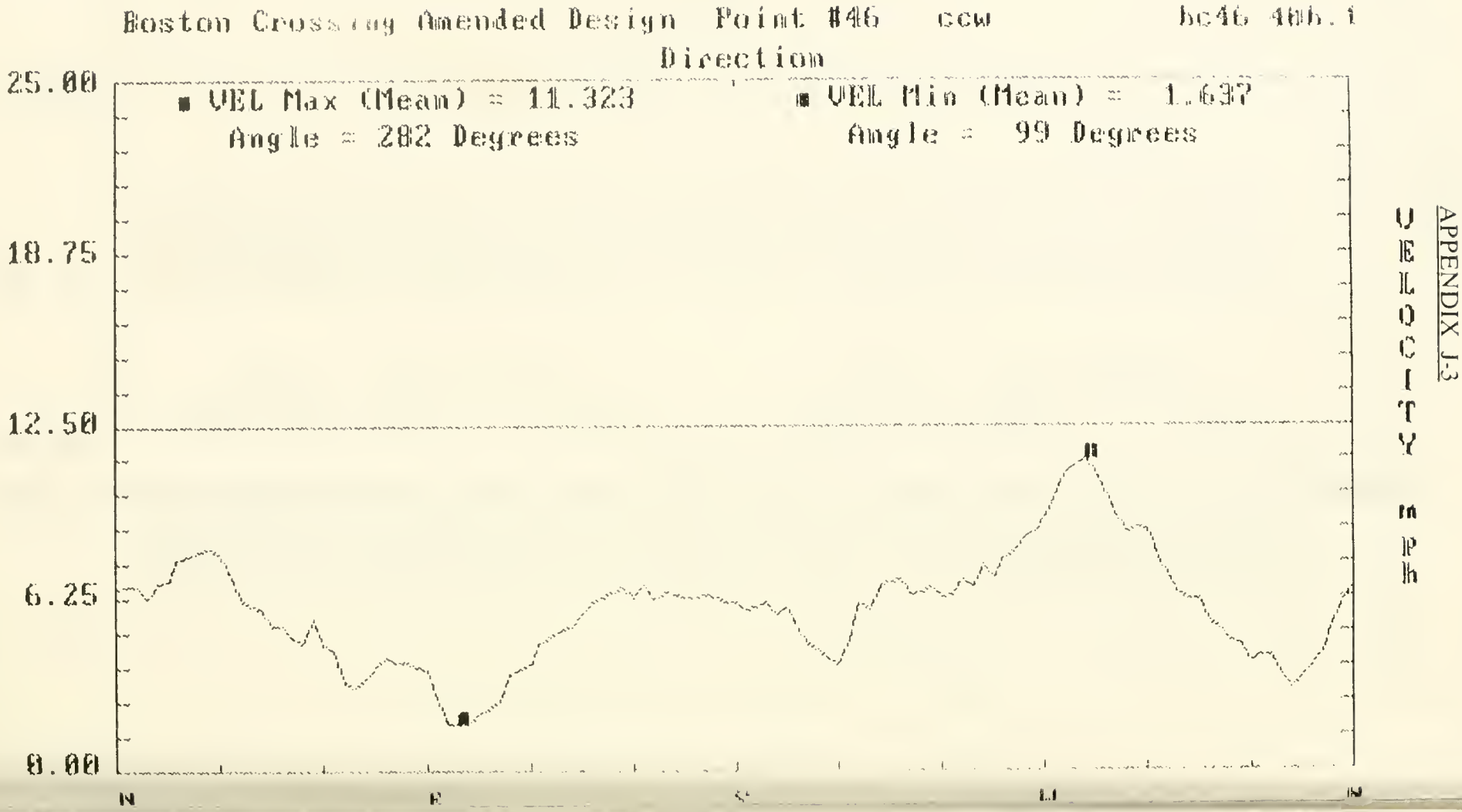
bcxx_41f.2

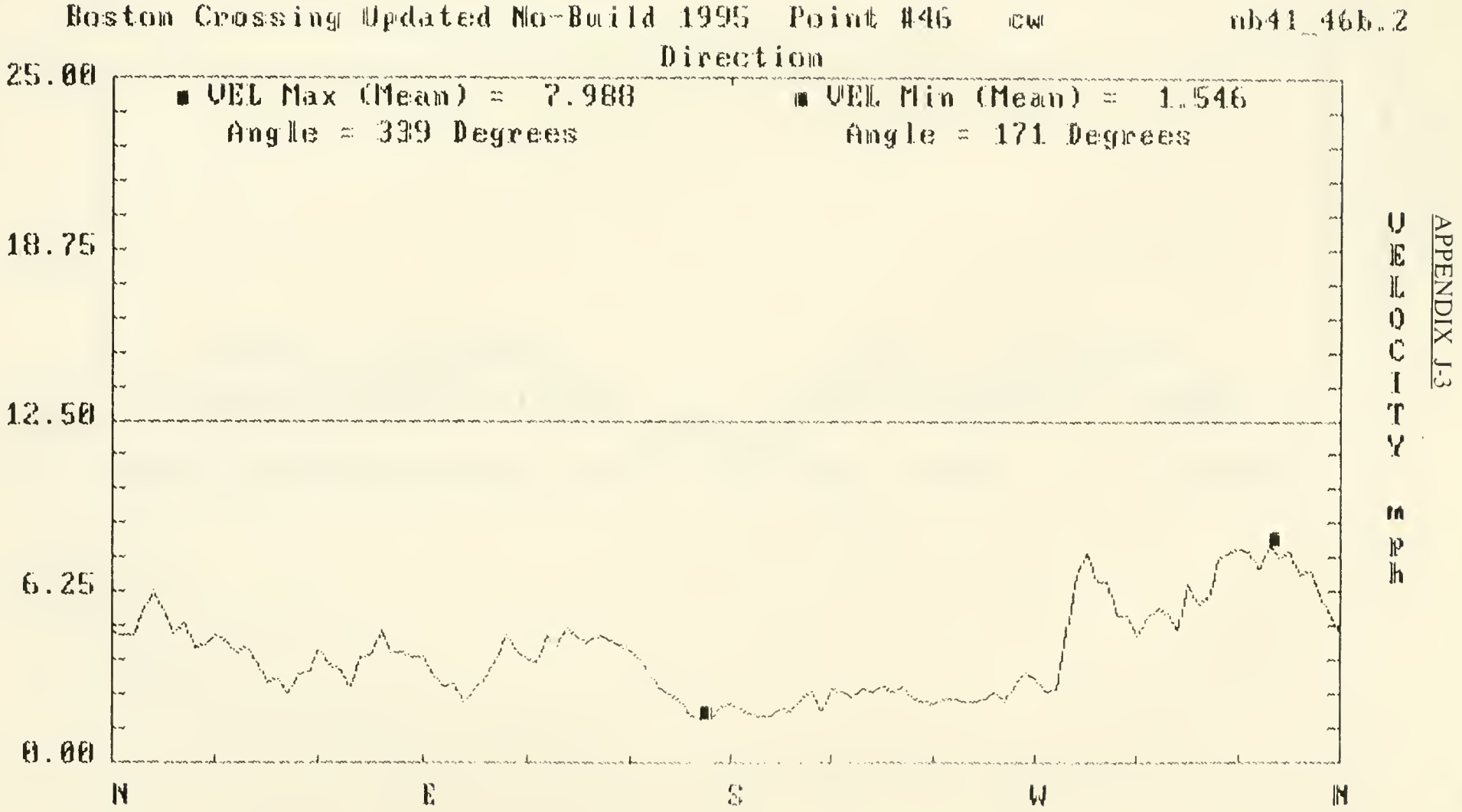
BOSTON ANNUAL
Point Location # Rooftop Area between the Northern Component and Lafayette Place

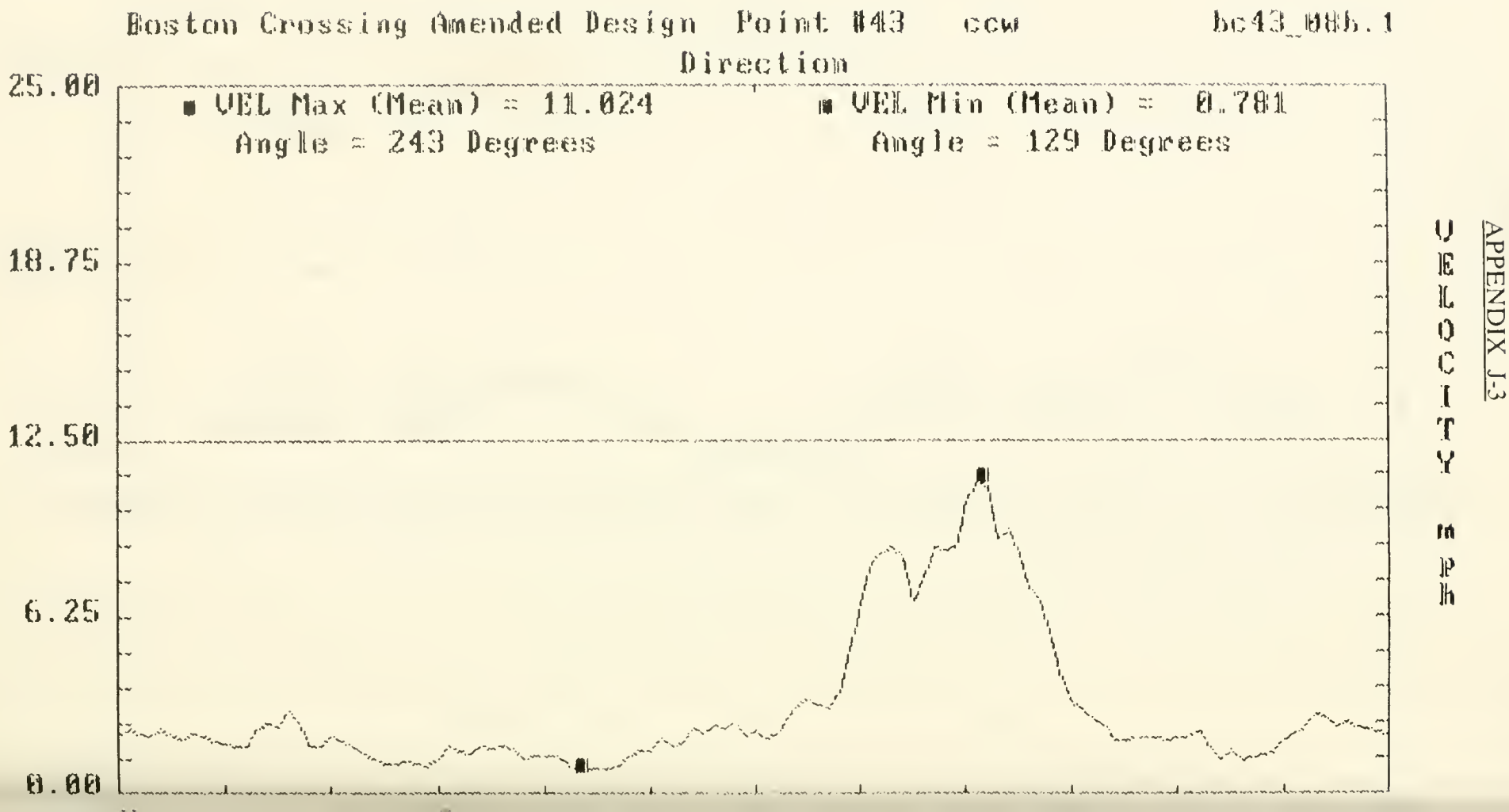
Velocity (mph)	Probability Vmean	Probability Vgust
0.00	1.000000	1.000000
1.00	0.911513	0.972757
2.00	0.693460	0.832717
3.00	0.463435	0.773303
4.00	0.290937	0.637813
5.00	0.181133	0.504408
6.00	0.115153	0.386868
7.00	0.075123	0.290872
8.00	0.049300	0.216509
9.00	0.033440	0.160835
10.00	0.022480	0.119896
11.00	0.015128	0.089343
12.00	0.010194	0.067937
13.00	0.006893	0.051623
14.00	0.004692	0.039403
15.00	0.003227	0.030170
16.00	0.002252	0.023147
17.00	0.001600	0.017786
18.00	0.001153	0.013686
19.00	0.000857	0.010548
20.00	0.000644	0.008146
21.00	0.000492	0.006309
22.00	0.000380	0.004904
23.00	0.000297	0.003830
24.00	0.000232	0.003006
25.00	0.000183	0.002375
26.00	0.000144	0.001883
27.00	0.000113	0.001513
28.00	0.000089	0.001221
29.00	0.000070	0.000993
30.00	0.000055	0.000813
31.00	0.000043	0.000671
32.00	0.000033	0.000556
33.00	0.000026	0.000464
34.00	0.000020	0.000389
35.00	0.000015	0.000327
36.00	0.000012	0.000275
37.00	0.000009	0.000232
38.00	0.000007	0.000197
39.00	0.000005	0.000166
40.00	0.000004	0.000141
41.00	0.000003	0.000119
42.00	0.000002	0.000101
43.00	0.000002	0.000086
44.00	0.000001	0.000072
45.00	0.000001	0.000061

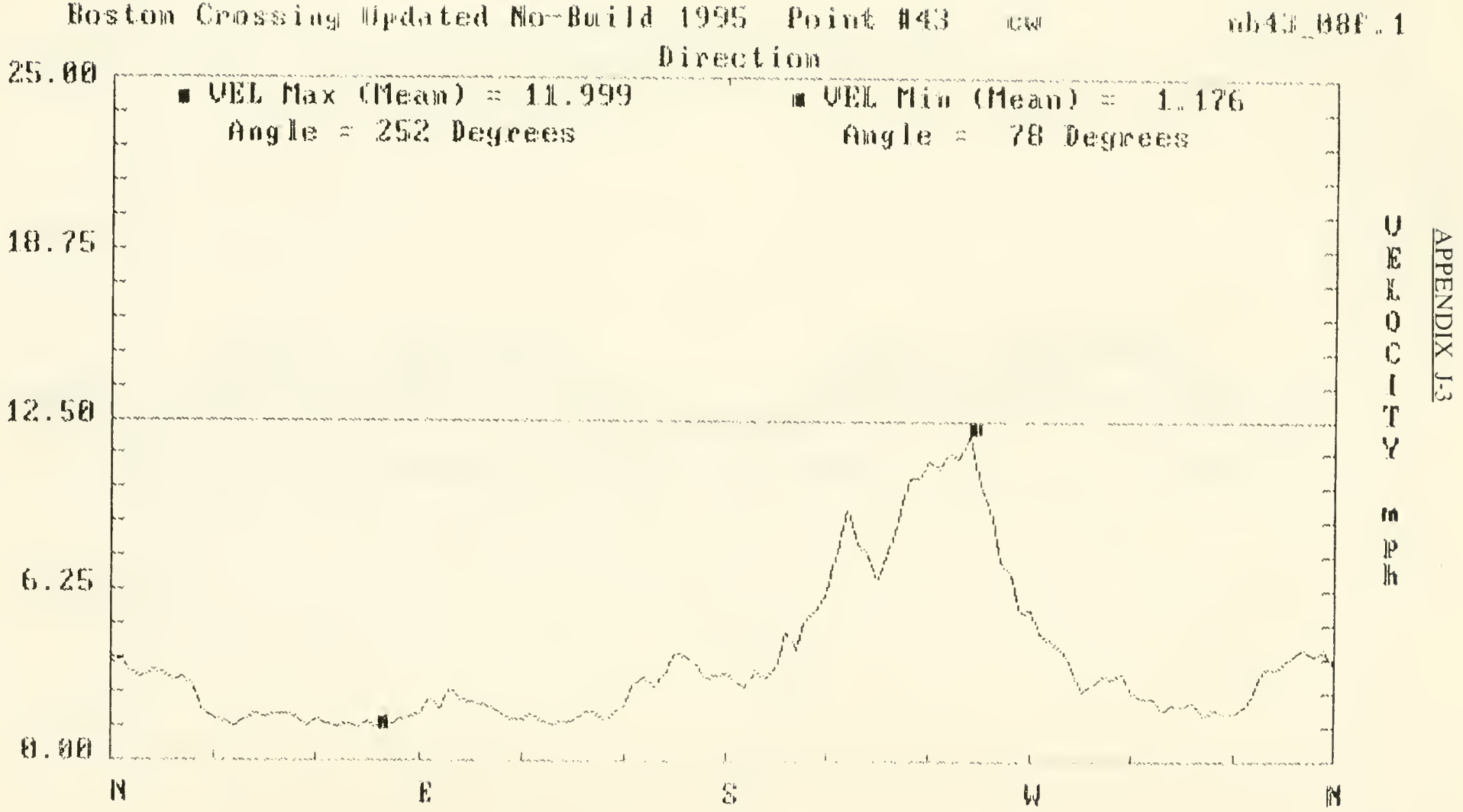
Rooftop Area between Northern Component and Lafayette Place a:bcXX_41



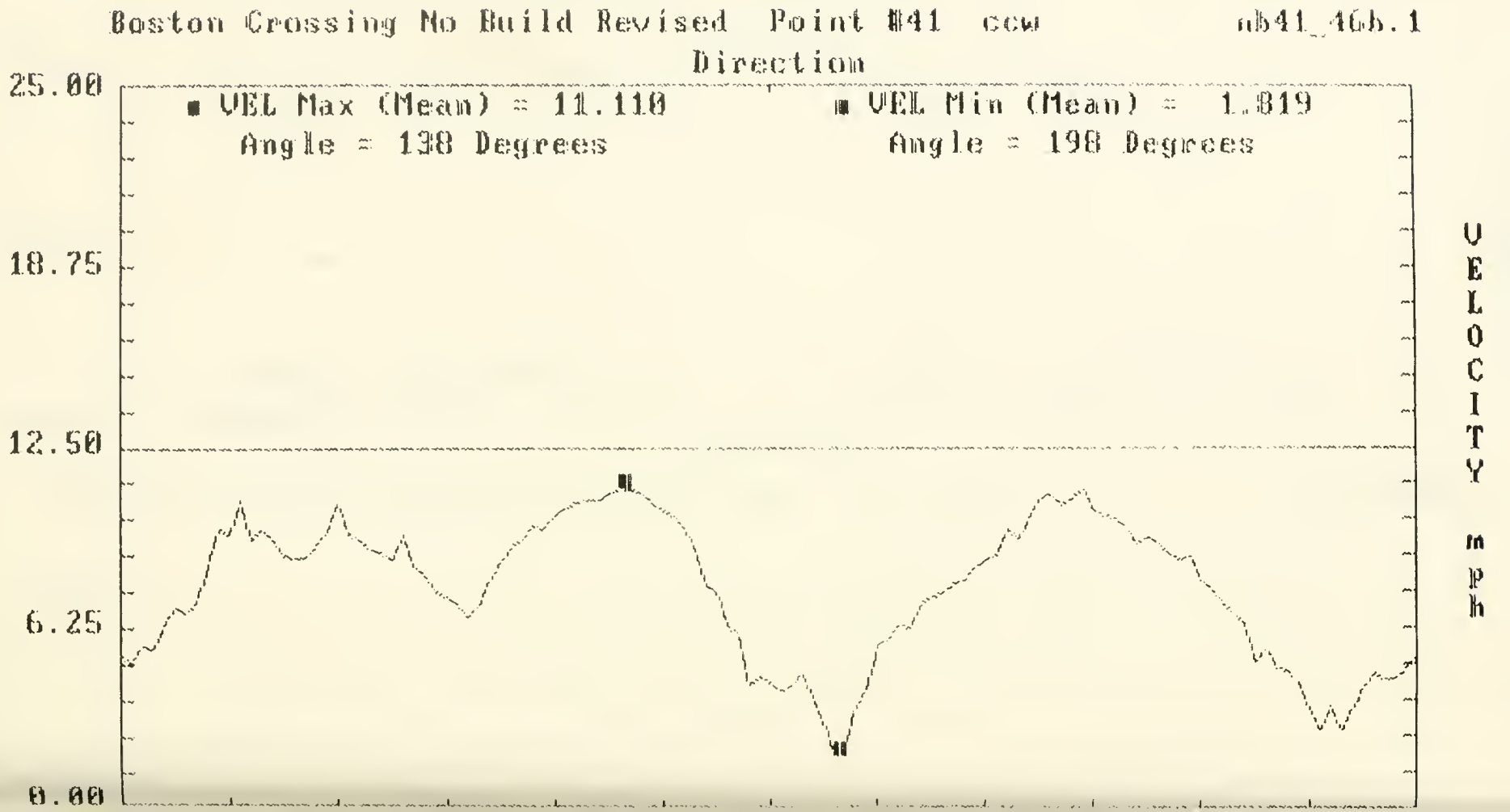

Boston Crossing Amended Design Point #46 ccw bc46 46b.1
Direction
VEL Max (Mean) = 11.323
Angle = 282 Degrees
VEL Min (Mean) = 1.637
Angle = 99 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph
N
E
S
W

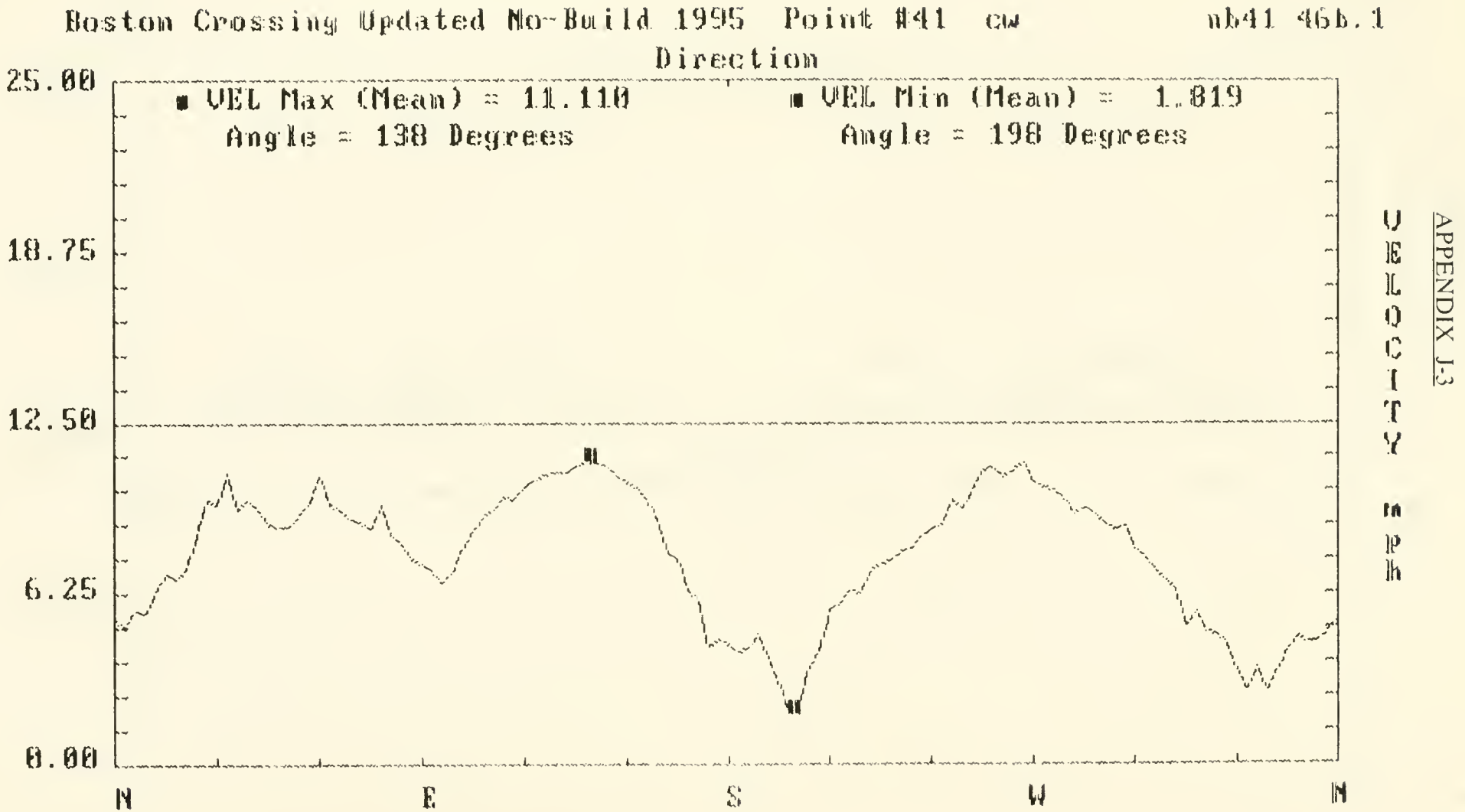

Boston Crossing Updated No-Build 1995 Point #46 cw nb41_46b.2
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 7.988
Angle = 339 Degrees
VEL Min (Mean) = 1.546
Angle = 171 Degrees
VELOCITY mph
N
E
S
W
N

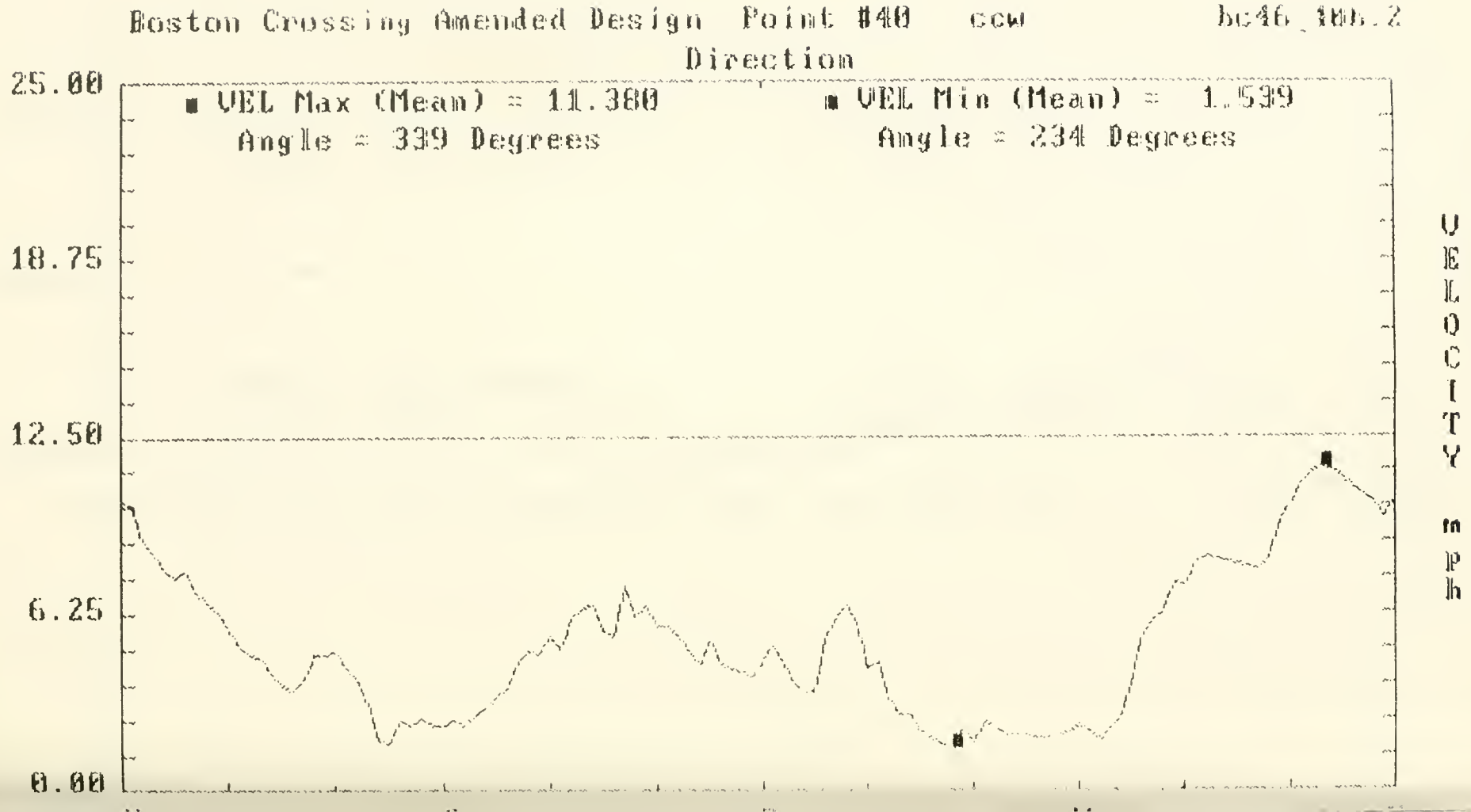

Boston Crossing Amended Design Point 043 ccw bc43_08b.1
Direction
25.00
18.75
12.50
6.25
0.00
■ VEL Max (Mean) = 11.024
Angle = 243 Degrees
■ VEL Min (Mean) = 0.781
Angle = 129 Degrees
VELOCITY in FPS

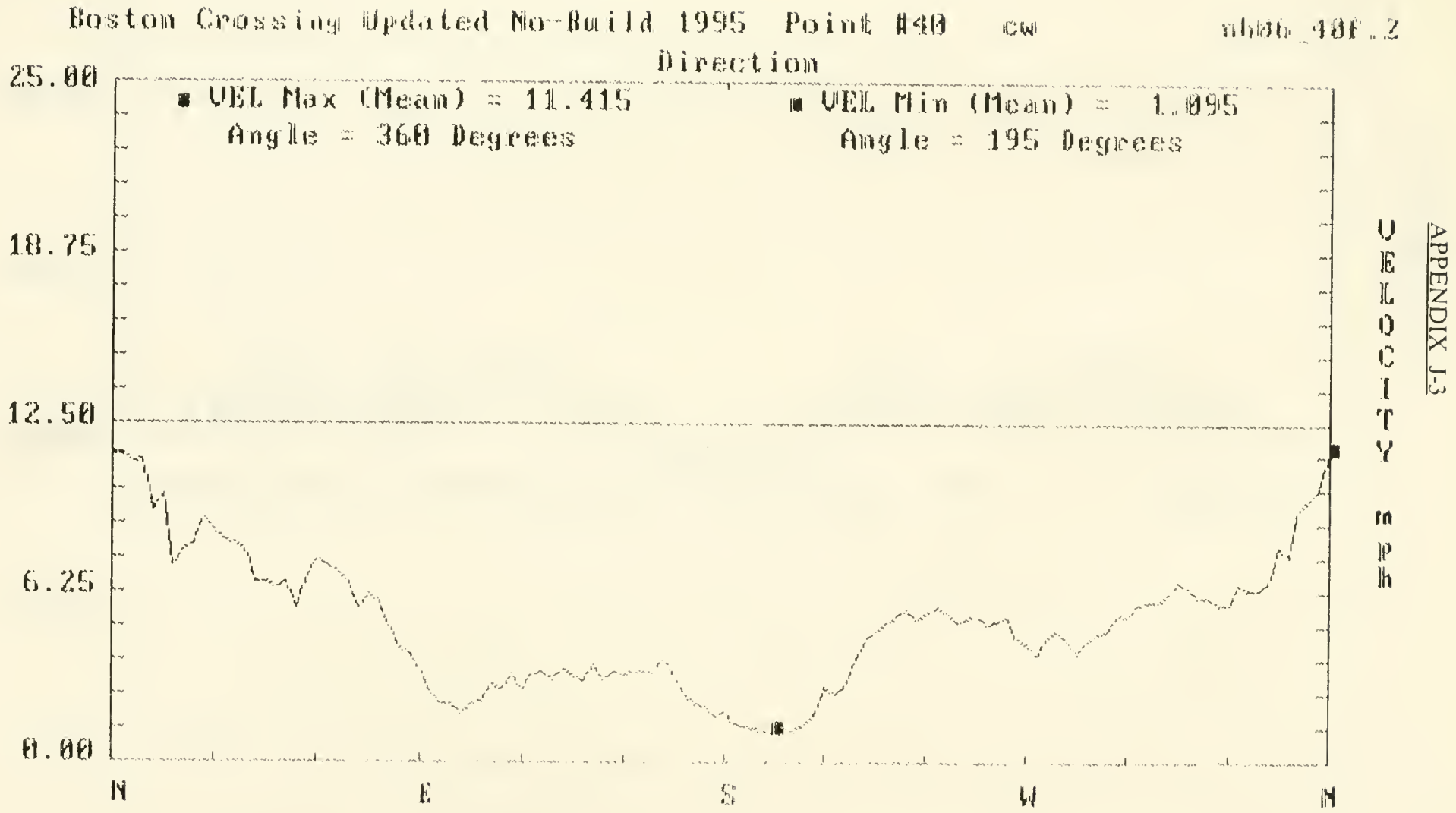

Boston Crossing Updated No-Build 1995 Point #43 cw nb43_08f.1
Direction
25.00
18.75
12.50
6.25
0.00
■ VEL Max (Mean) = 11.999
Angle = 252 Degrees
■ VEL Min (Mean) = 1.176
Angle = 78 Degrees
VELOCITY mph
N
E
S
W
N

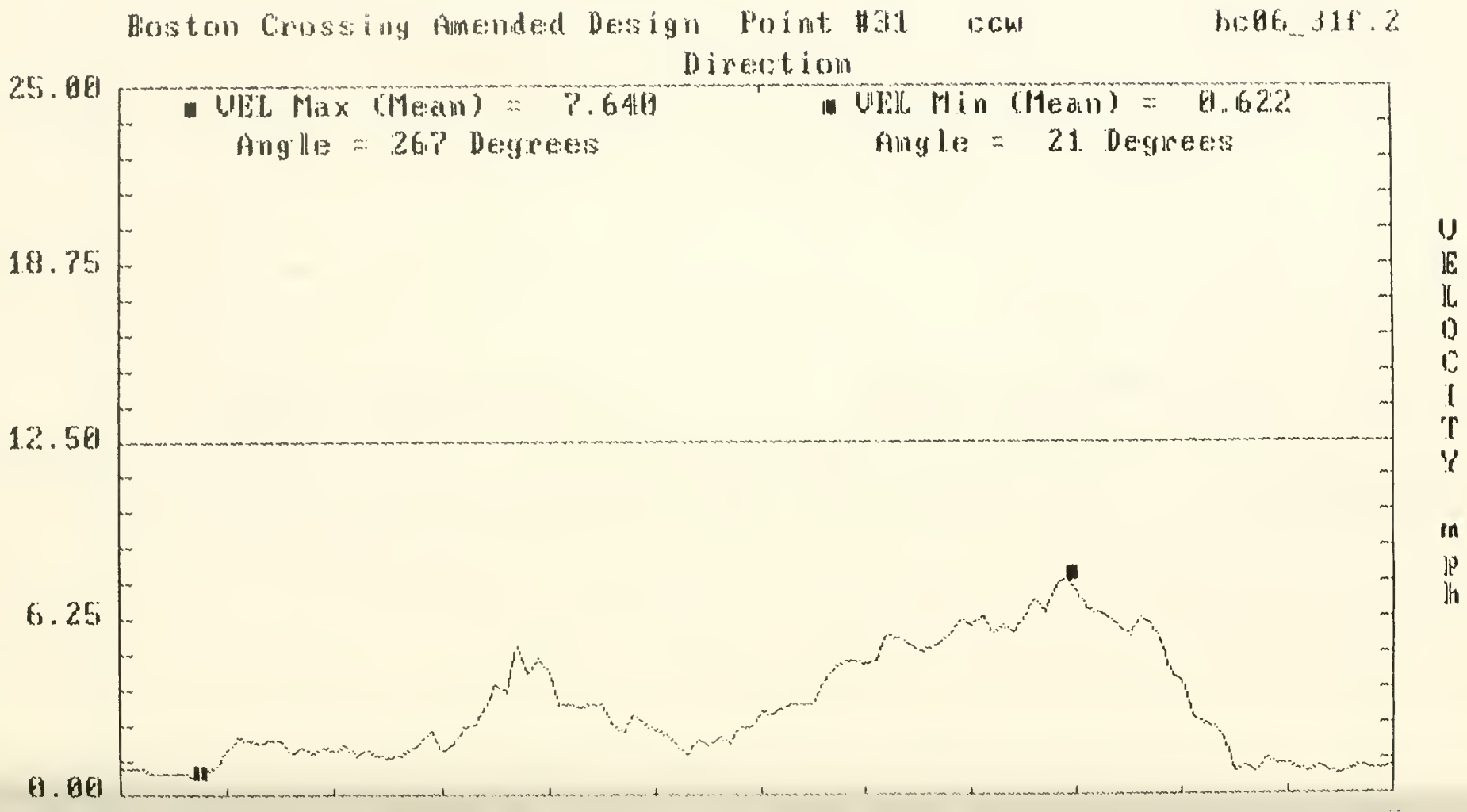
APPENDIX J-3

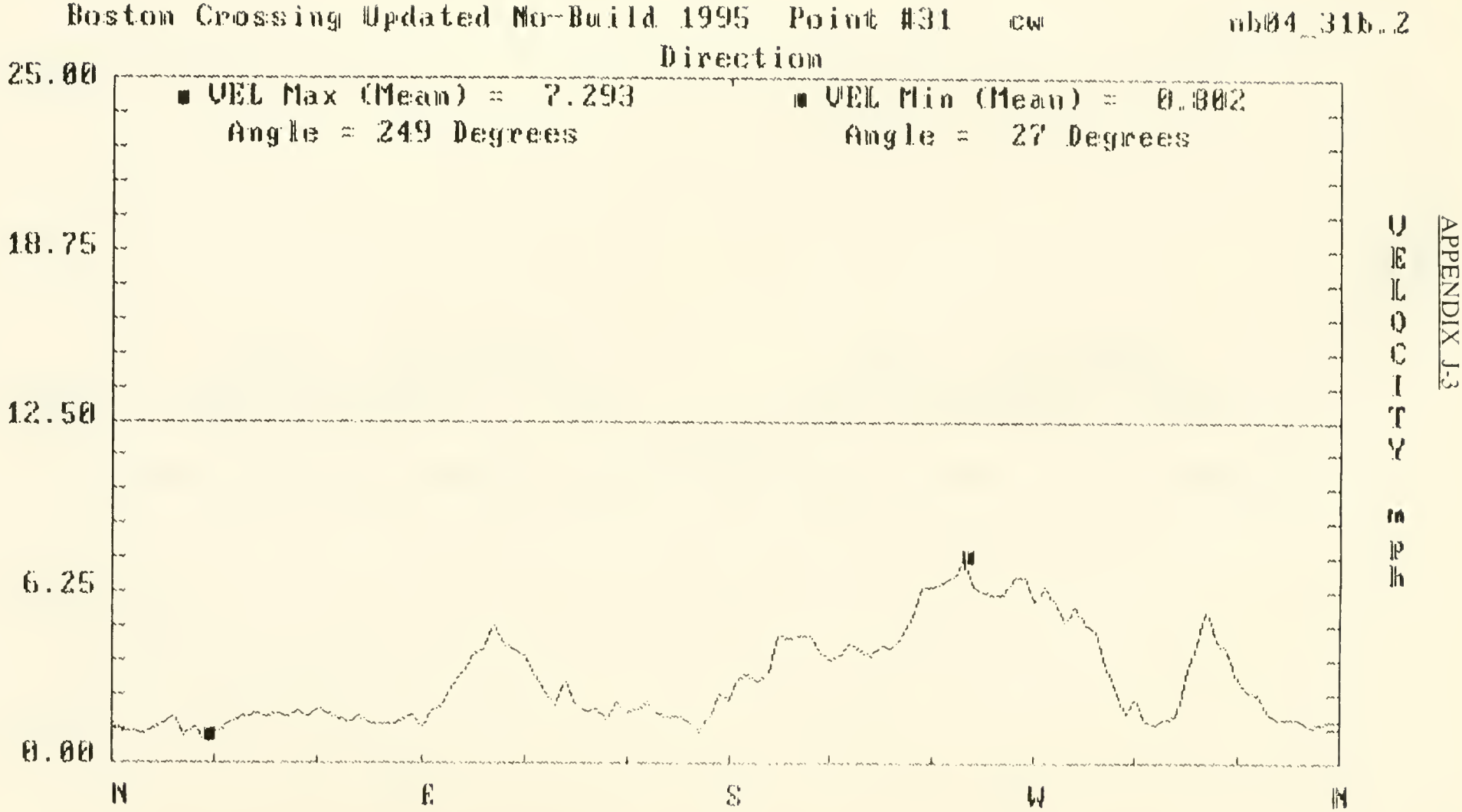

Boston Crossing No Build Revised Point #41 ccw nb41_46b.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 11.110
Angle = 138 Degrees
VEL Min (Mean) = 1.819
Angle = 198 Degrees
VELOCITY mph

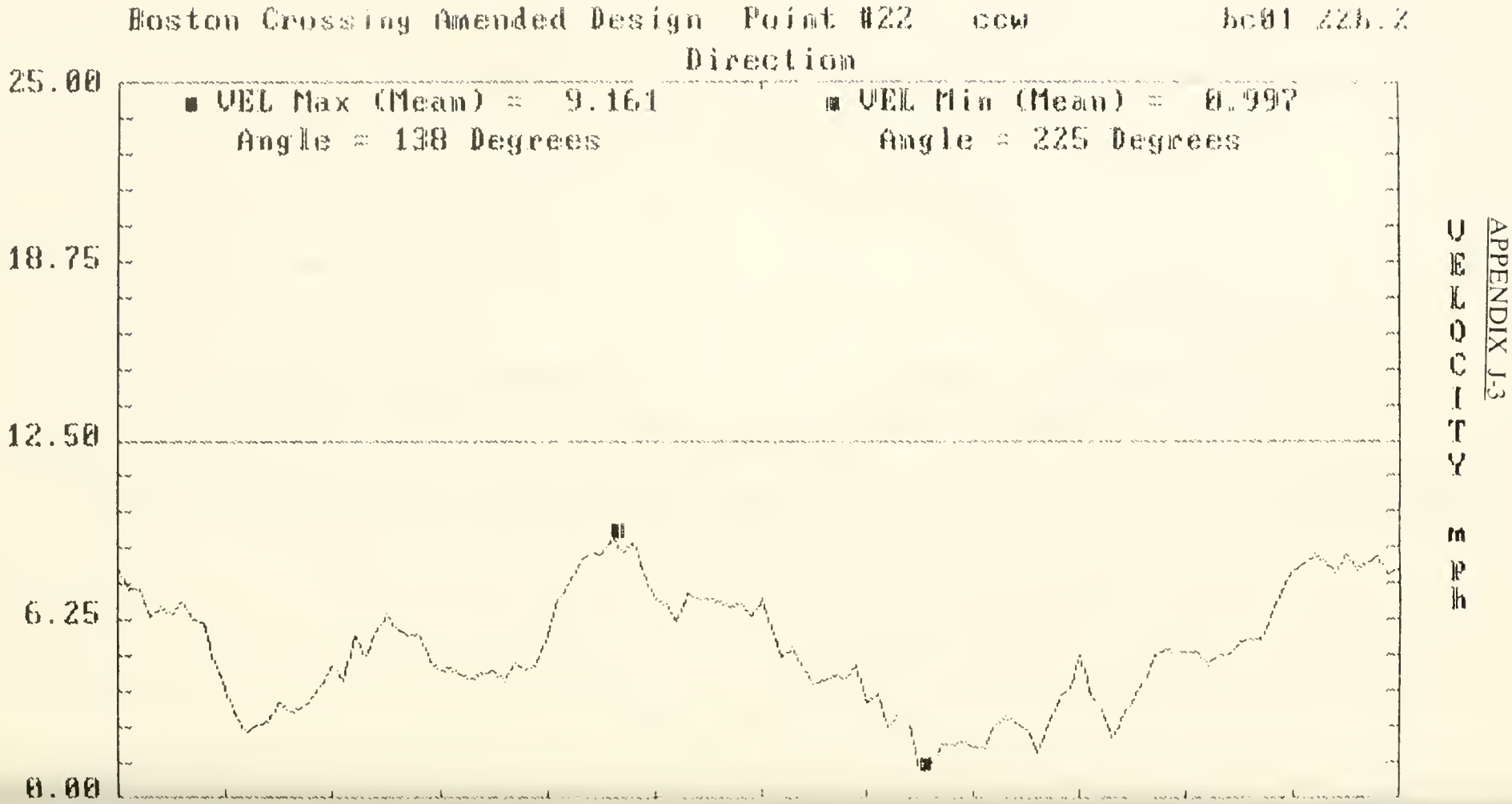

Boston Crossing Updated No-Build 1995 Point #41 cw
nb41 46b.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 11.110
Angle = 138 Degrees
VEL Min (Mean) = 1.819
Angle = 198 Degrees
VELOCITY mph
N
E
S
W
N

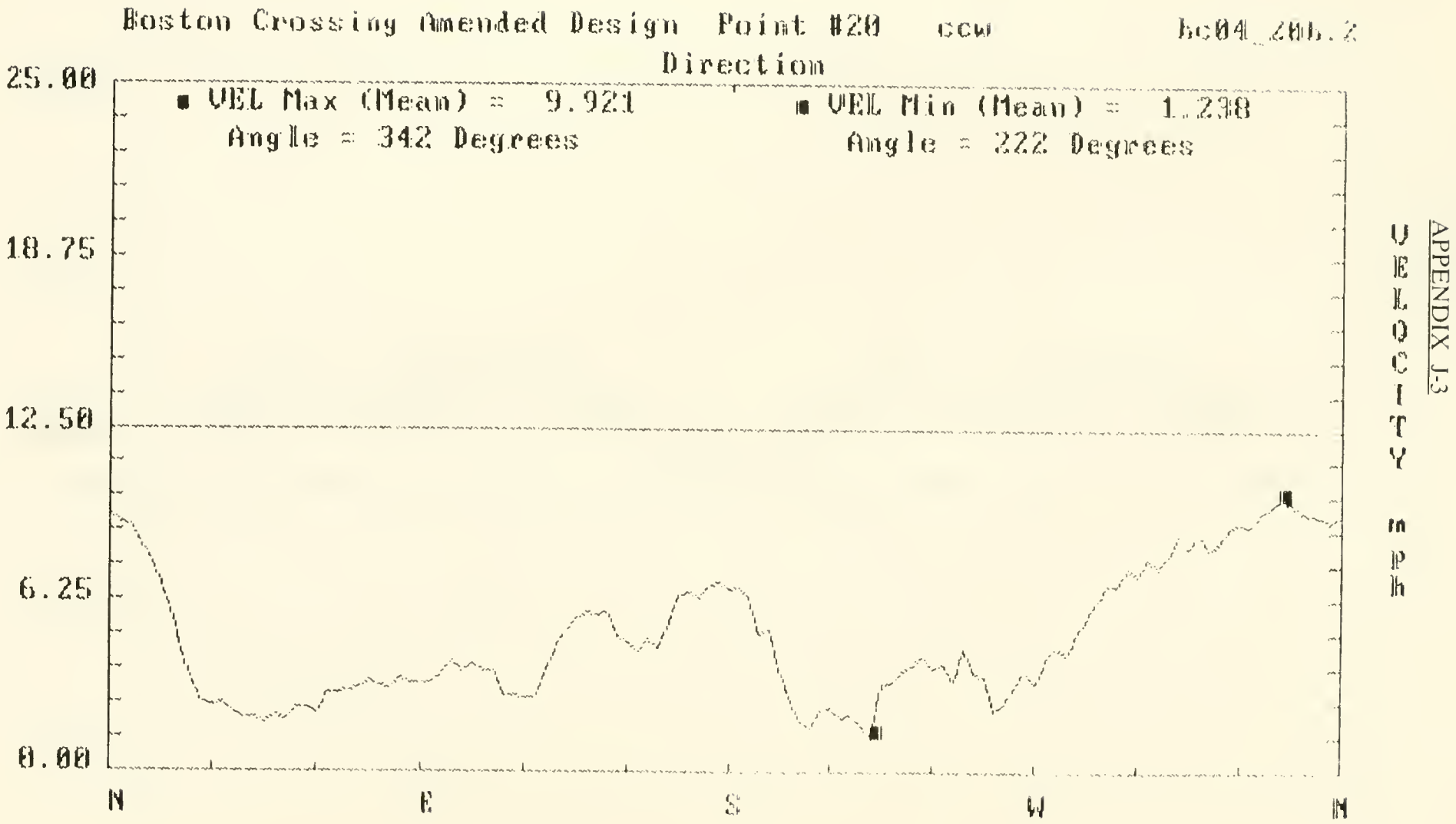

Boston Crossing Amended Design Point #40 ccw bc46_100.2
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 11.380
Angle = 339 Degrees
VEL Min (Mean) = 1.539
Angle = 234 Degrees
VELOCITY mph


Boston Crossing Updated No-Build 1995 Point #40 cw mb06_40F.Z
Direction
VEL Max (Mean) = 11.415
Angle = 360 Degrees
VEL Min (Mean) = 1.095
Angle = 195 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph

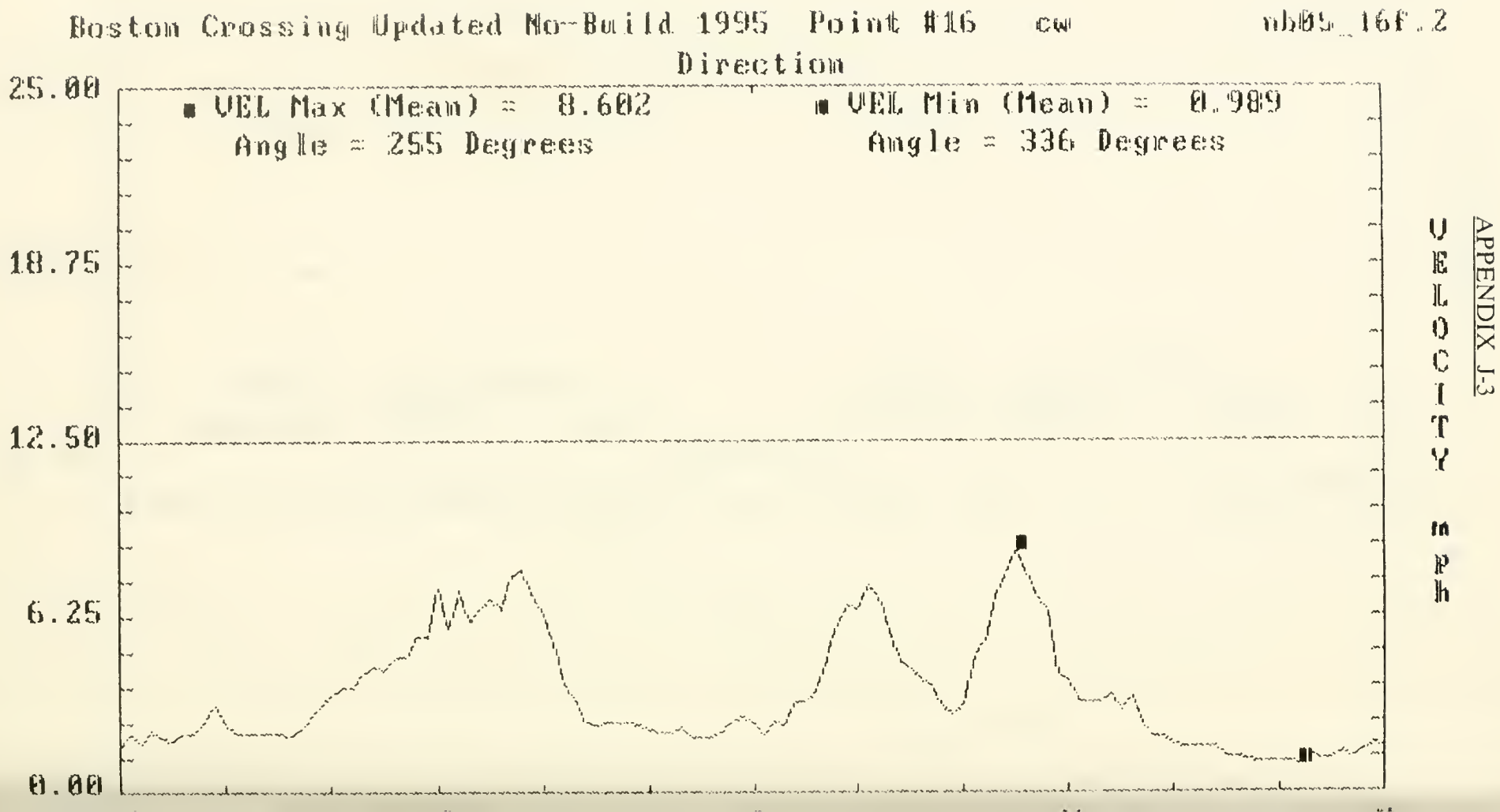

Boston Crossing Amended Design Point #31 ccw bc06_31f.2
Direction
25.00
18.75
12.50
6.25
0.00
■ VEL Max (Mean) = 7.640
Angle = 267 Degrees
■ VEL Min (Mean) = 0.622
Angle = 21 Degrees
VELOCITY mph

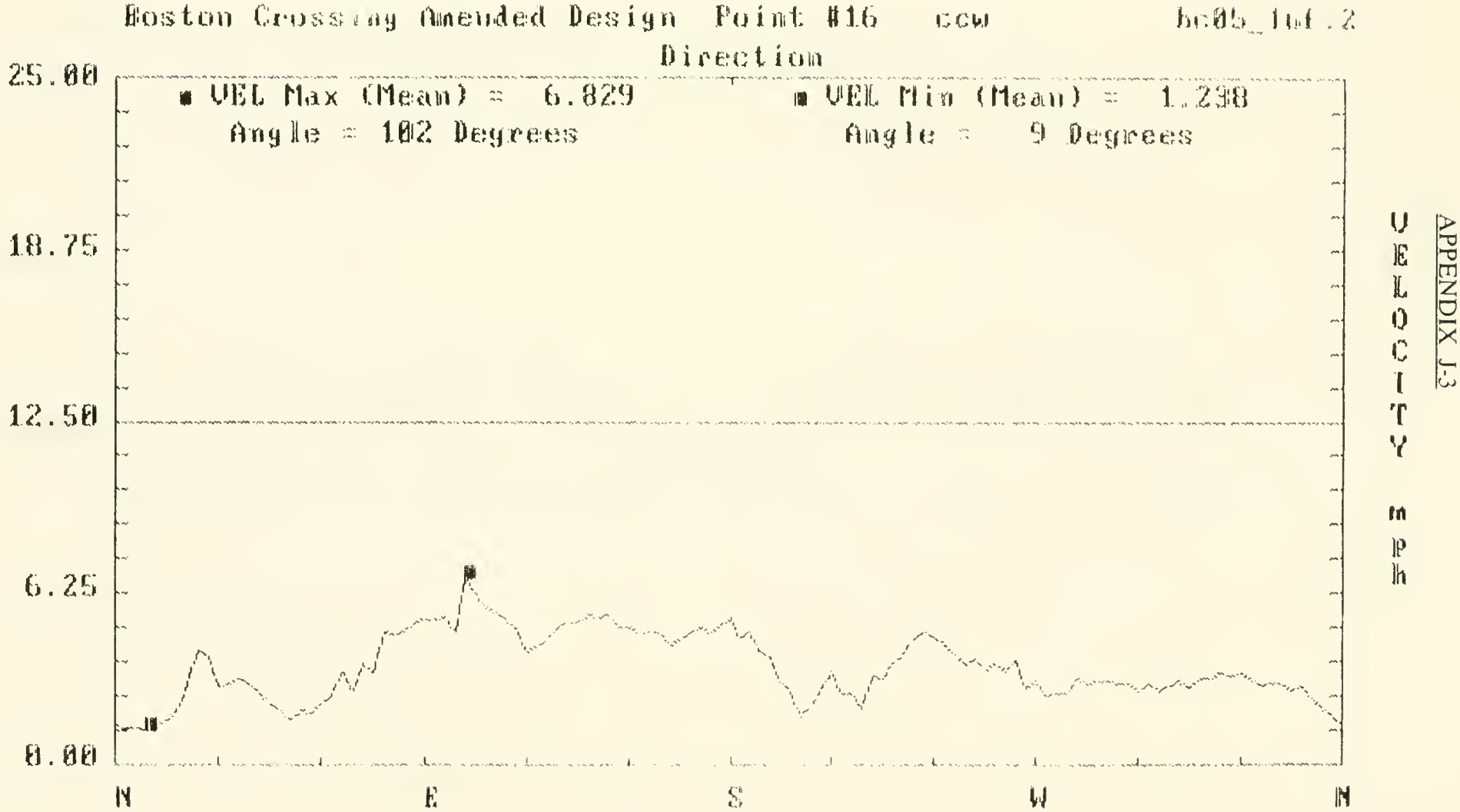

Boston Crossing Updated No-Build 1995 Point #31 cw nb04_31b.2
Direction
VEL Max (Mean) = 7.293
Angle = 249 Degrees
VEL Min (Mean) = 0.802
Angle = 27 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph
N
E
S
W
N

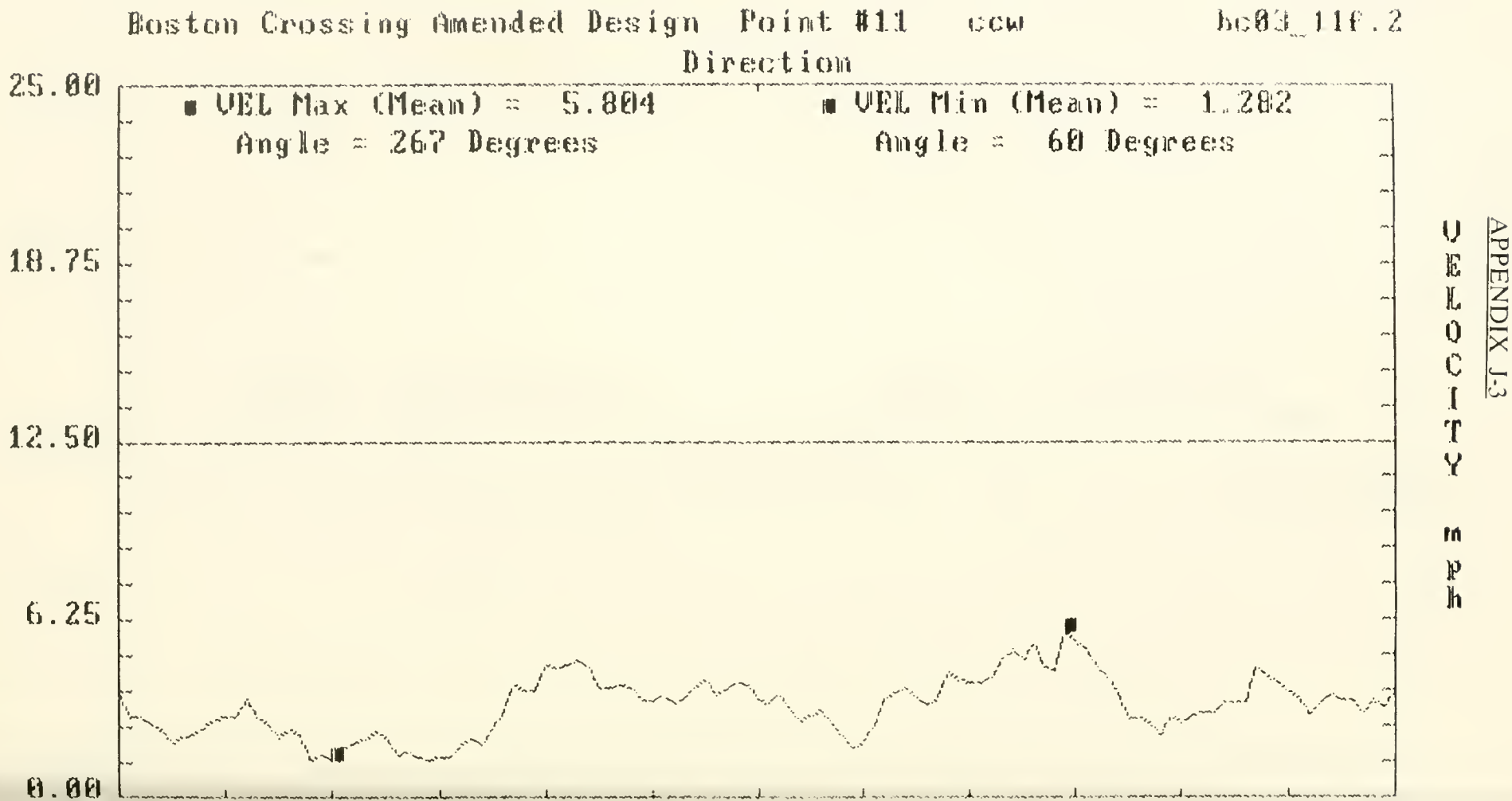

Boston Crossing Amended Design Point #22 ccw bc01 22b.x
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 9.161
Angle = 138 Degrees
VEL Min (Mean) = 0.997
Angle = 225 Degrees
VELOCITY mph

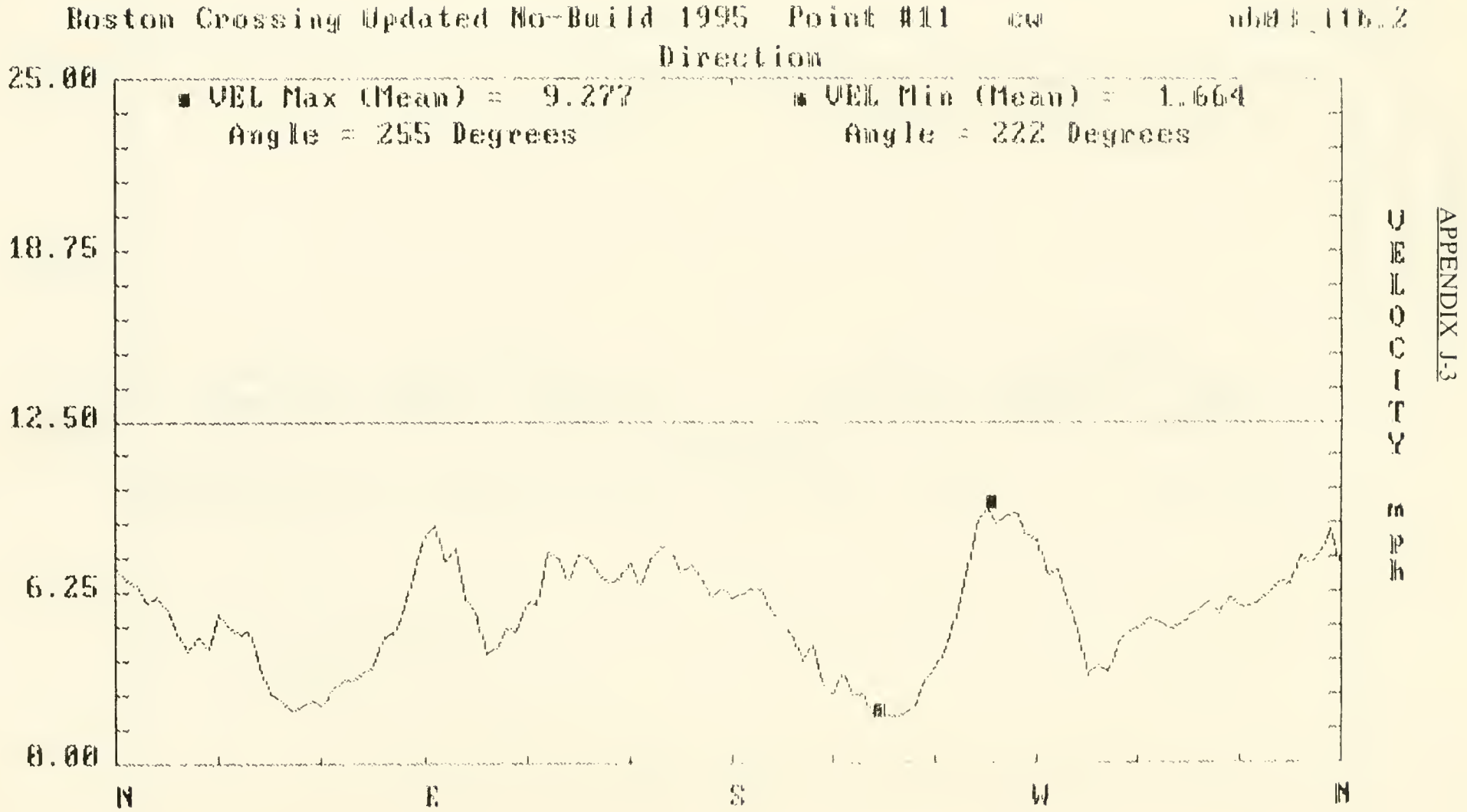

Boston Crossing Amended Design Point #20 ccw bc04_20b.2
Direction
VEL Max (Mean) = 9.921
Angle = 342 Degrees
VEL Min (Mean) = 1.238
Angle = 222 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph

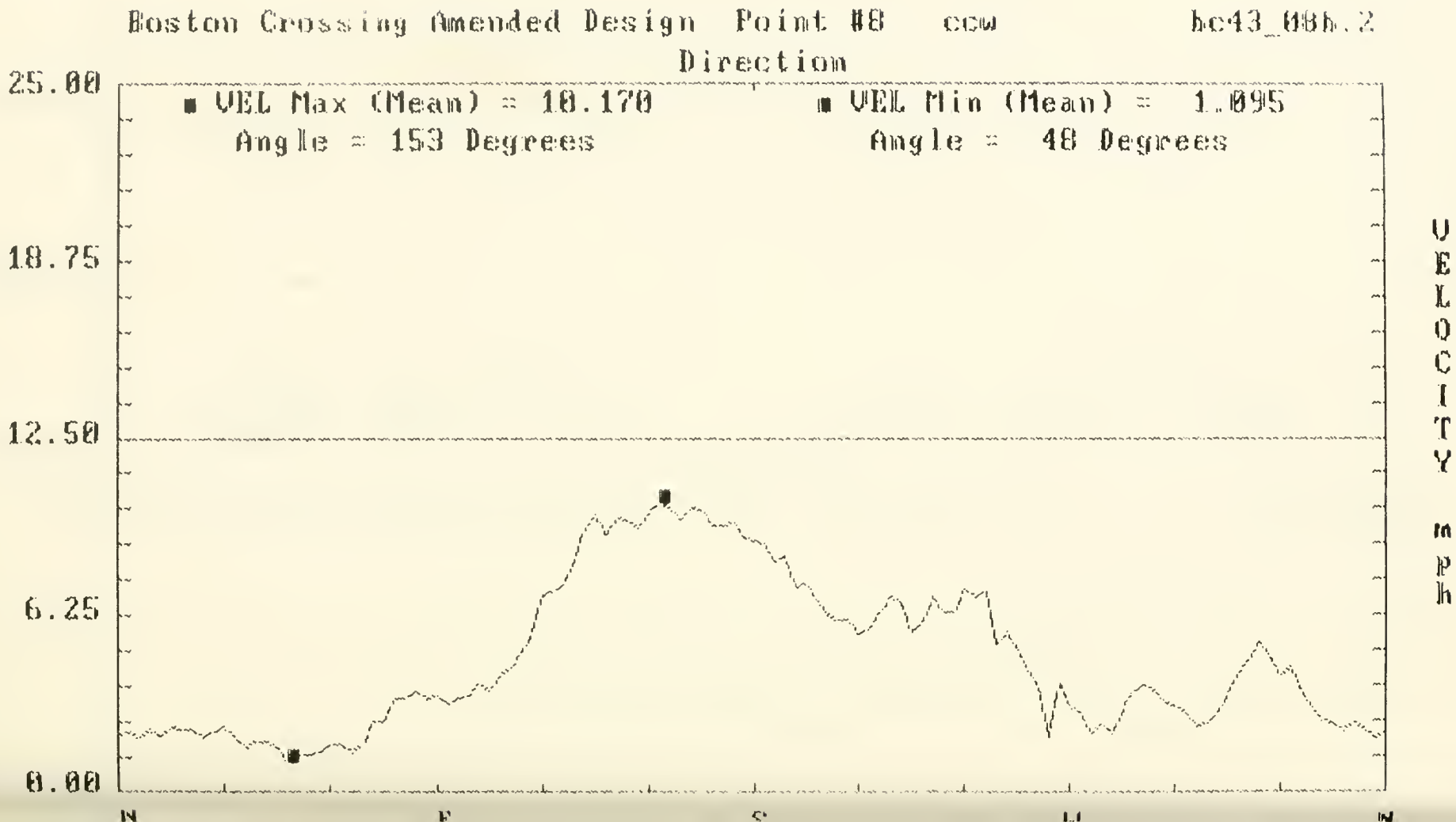
APPENDIX J-3

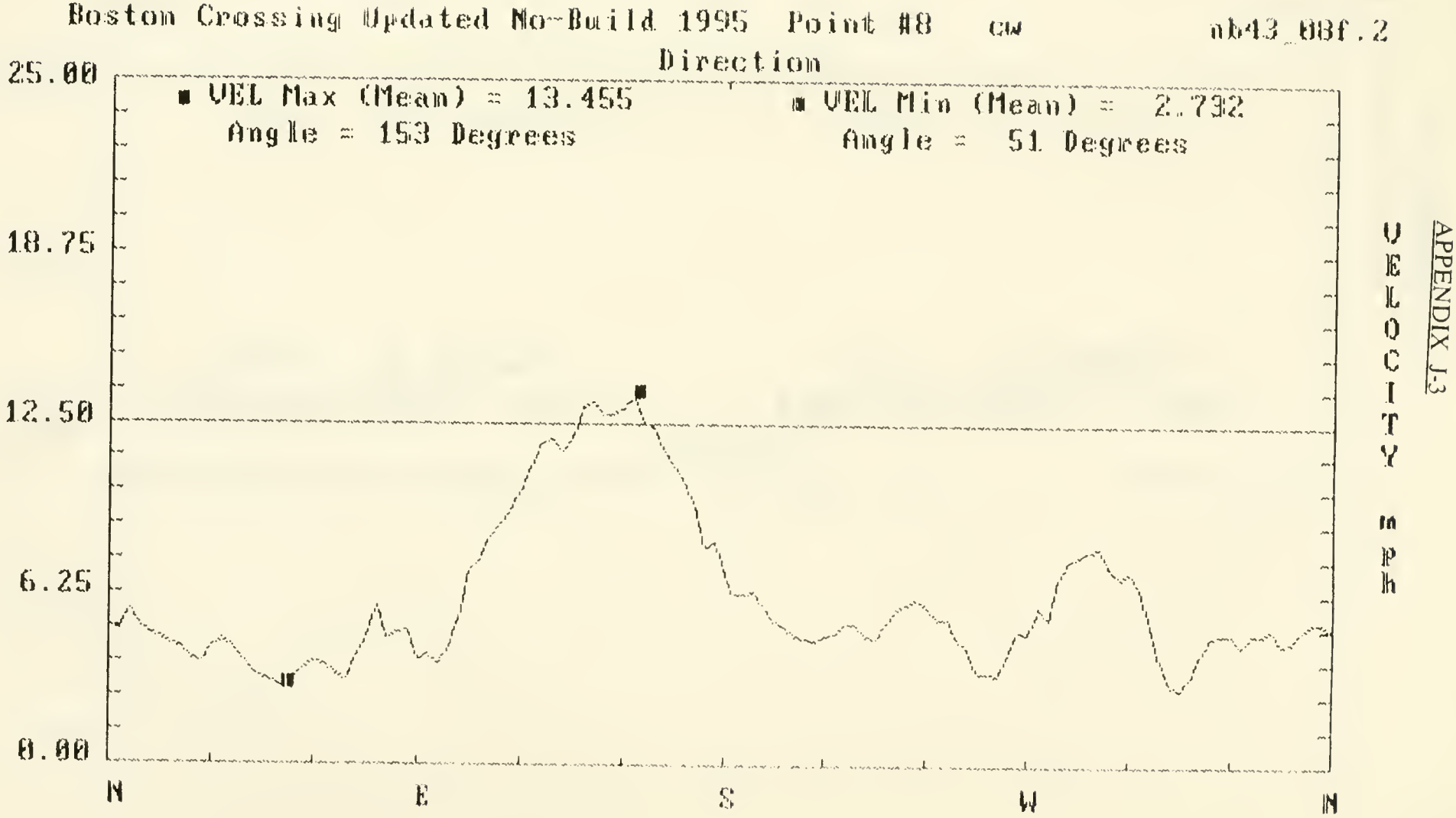

Boston Crossing Updated No-Build 1995 Point #16 cw nb05_16f.2
Direction
VEL Max (Mean) = 8.602
Angle = 255 Degrees
VEL Min (Mean) = 0.989
Angle = 336 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph

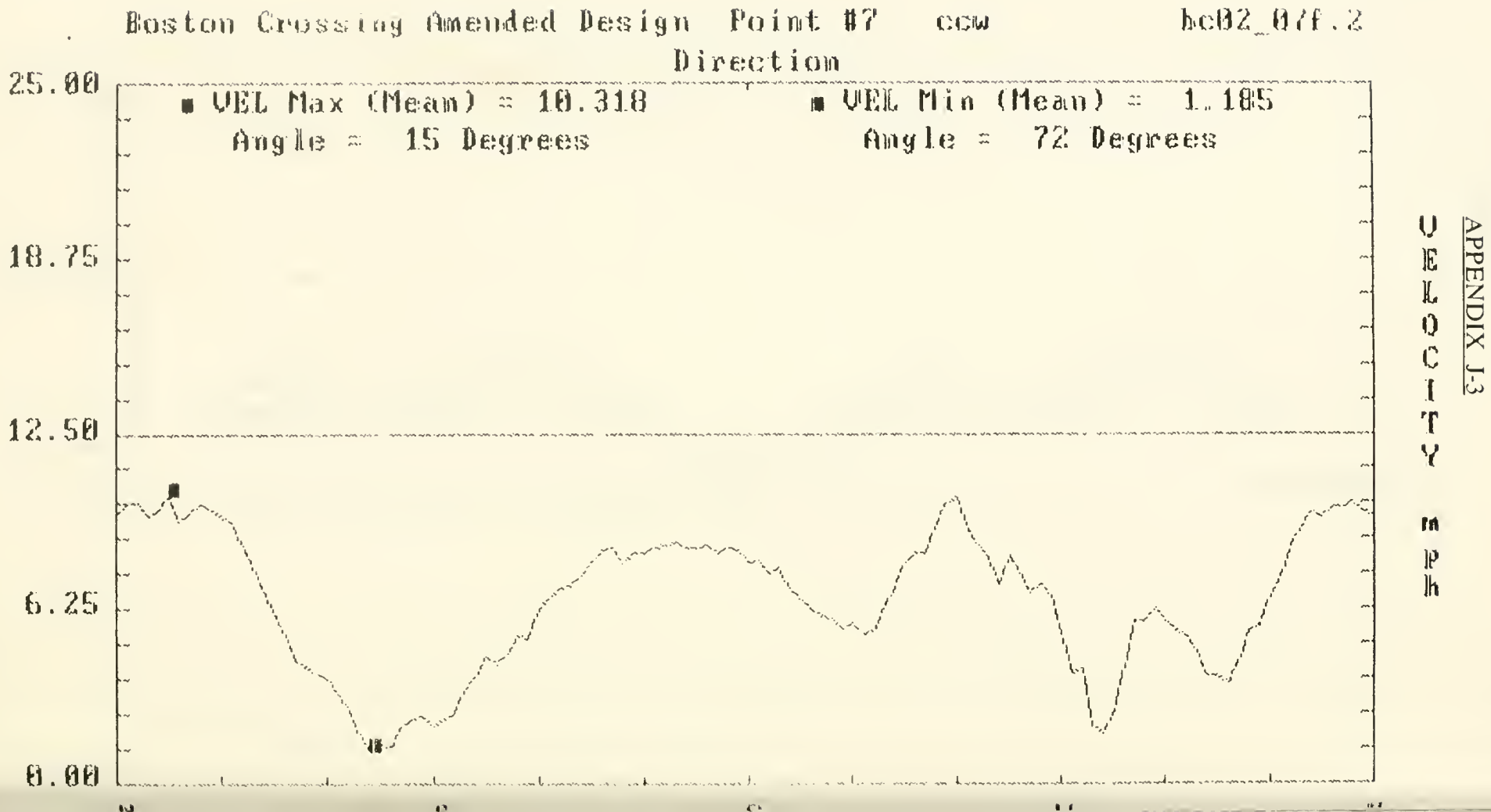

Boston Crossing Amended Design Point #16 ccw bc05_tst.2
Direction
25.00
18.75
12.50
6.25
0.00
■ VEL Max (Mean) = 6.829
Angle = 102 Degrees
■ VEL Min (Mean) = 1.238
Angle = 9 Degrees
N
E
S
W
N
VELOCITY mph

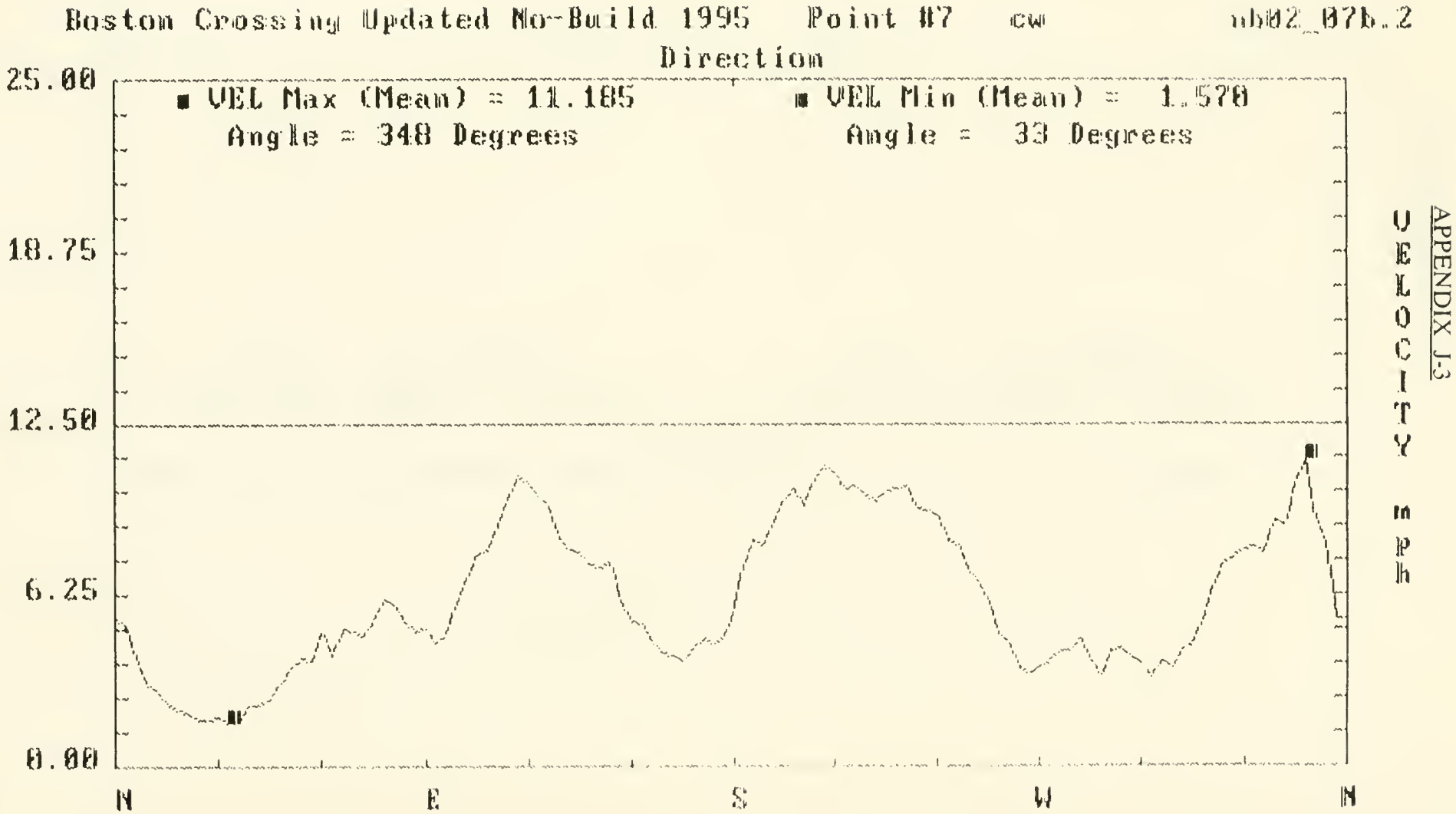

Boston Crossing Amended Design Point #11 ccw bc03_11f.2
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 5.804
Angle = 267 Degrees
VEL Min (Mean) = 1.282
Angle = 60 Degrees
VELOCITY mph

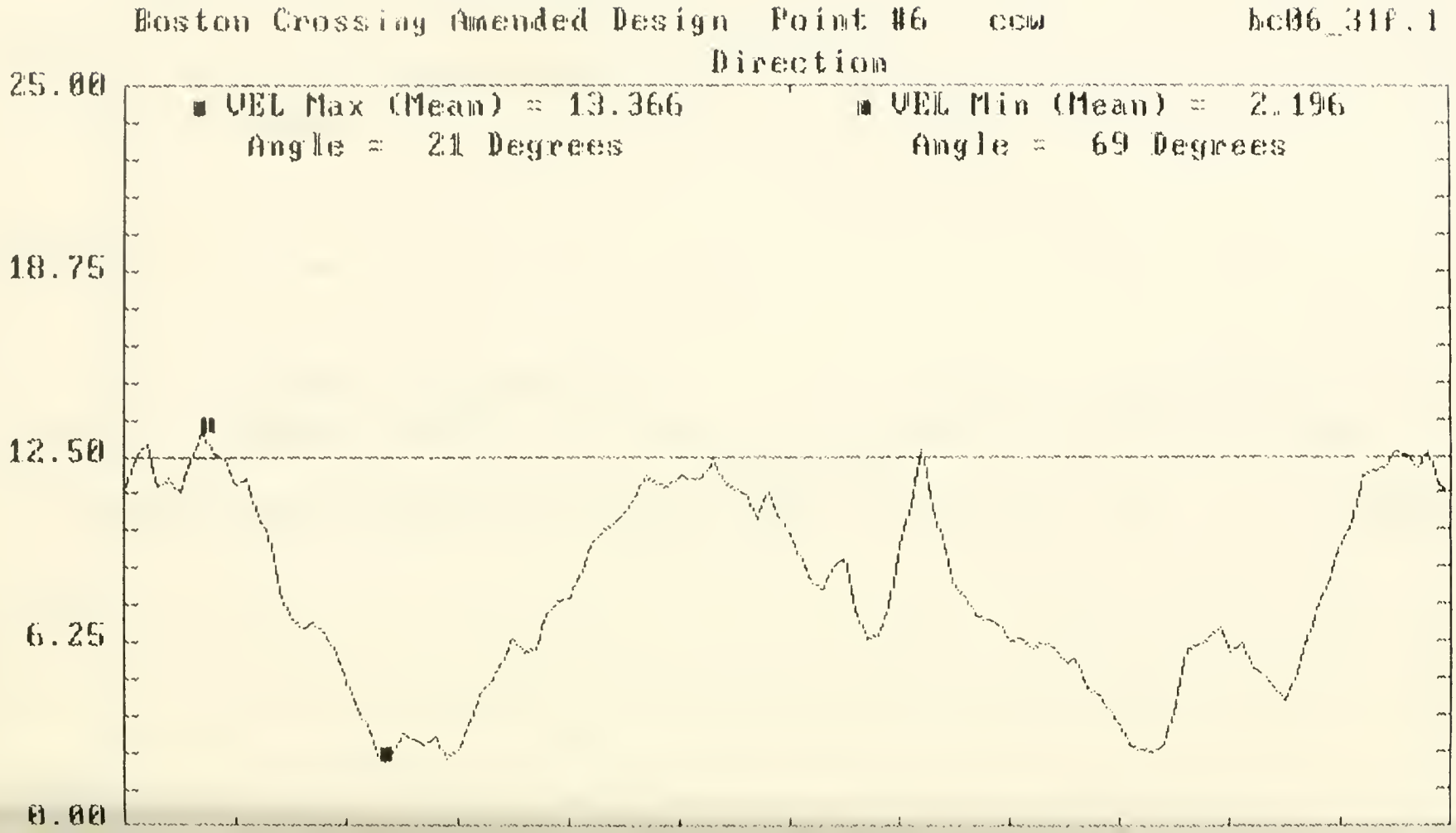

Boston Crossing Updated No-Build 1995 Point #11 cw nb01_11b.2
Direction
VEL Max (Mean) = 9.277
Angle = 255 Degrees
VEL Min (Mean) = 1.664
Angle = 222 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph
N
E
S
W
N

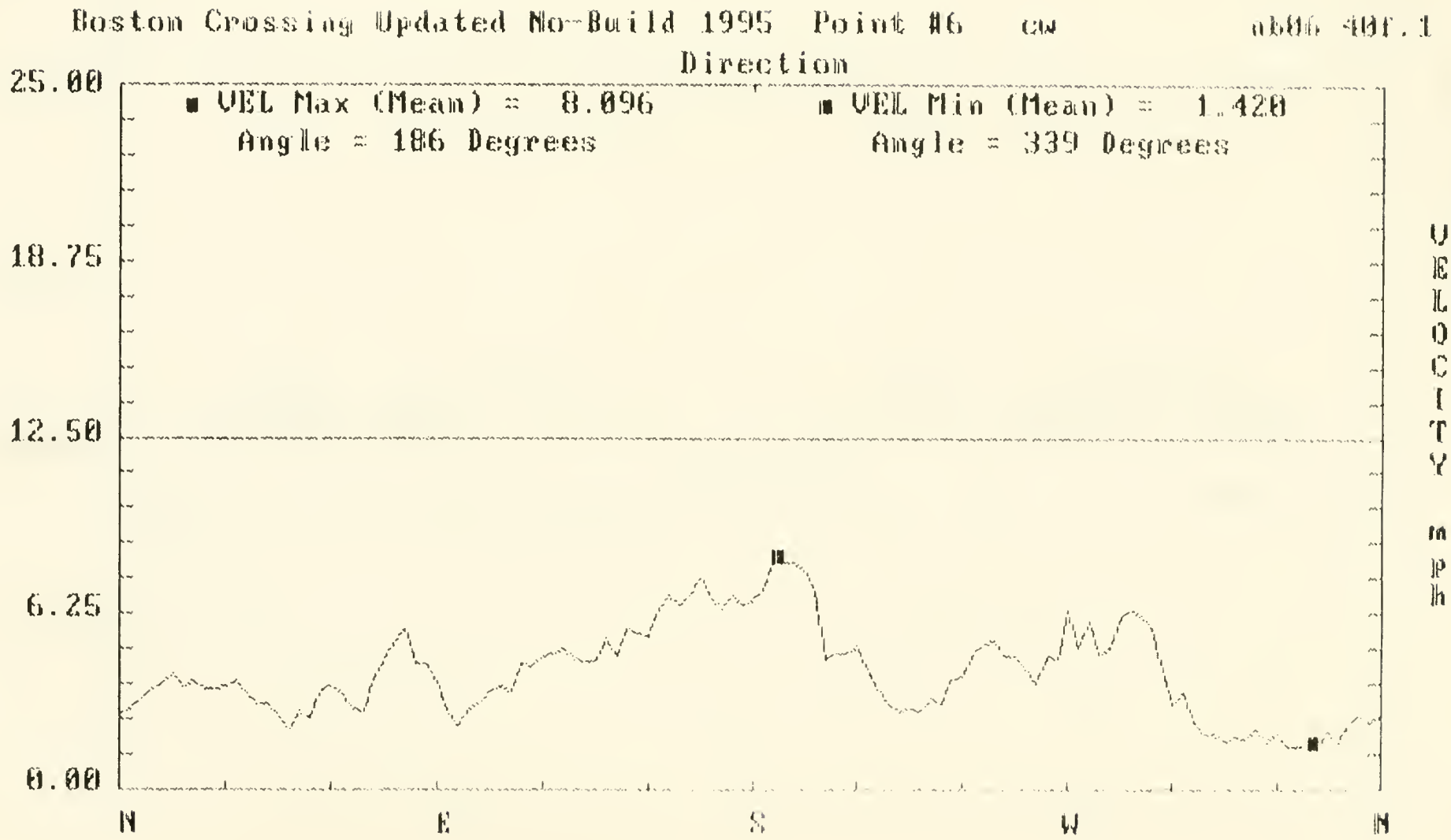

Boston Crossing Amended Design Point #8 ccw bc43_08b.2
Direction
25.00
18.75
12.50
6.25
0.00
■ VEL Max (Mean) = 18.170
Angle = 153 Degrees
■ VEL Min (Mean) = 1.095
Angle = 48 Degrees
VELOCITY mph
N
E
S
W
N

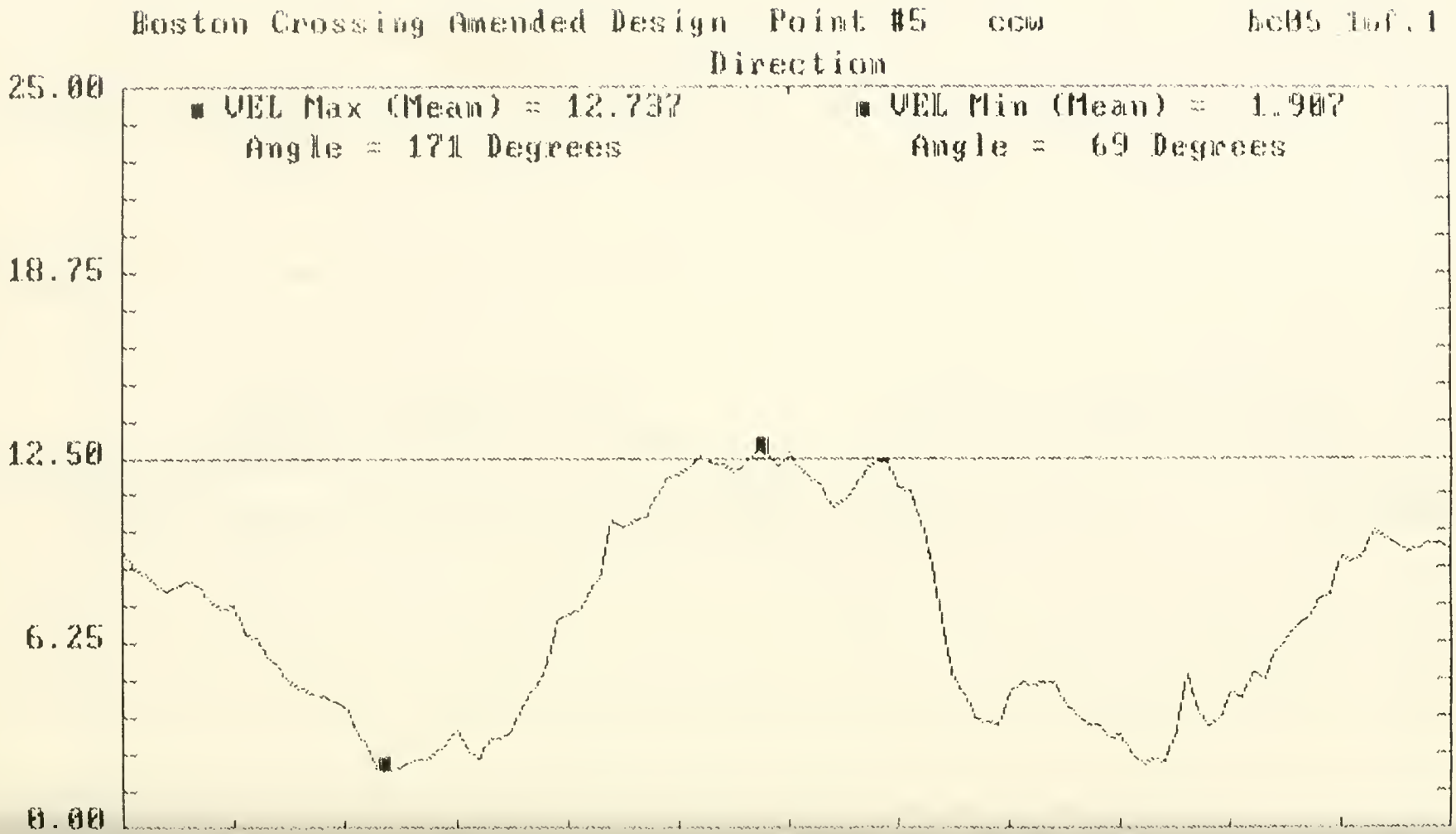

Boston Crossing Updated No-Build 1995 Point #8 cw nb43_08f.2
Direction
VEL Max (Mean) = 13.455
Angle = 153 Degrees
VEL Min (Mean) = 2.732
Angle = 51 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph
N
E
S
W
N

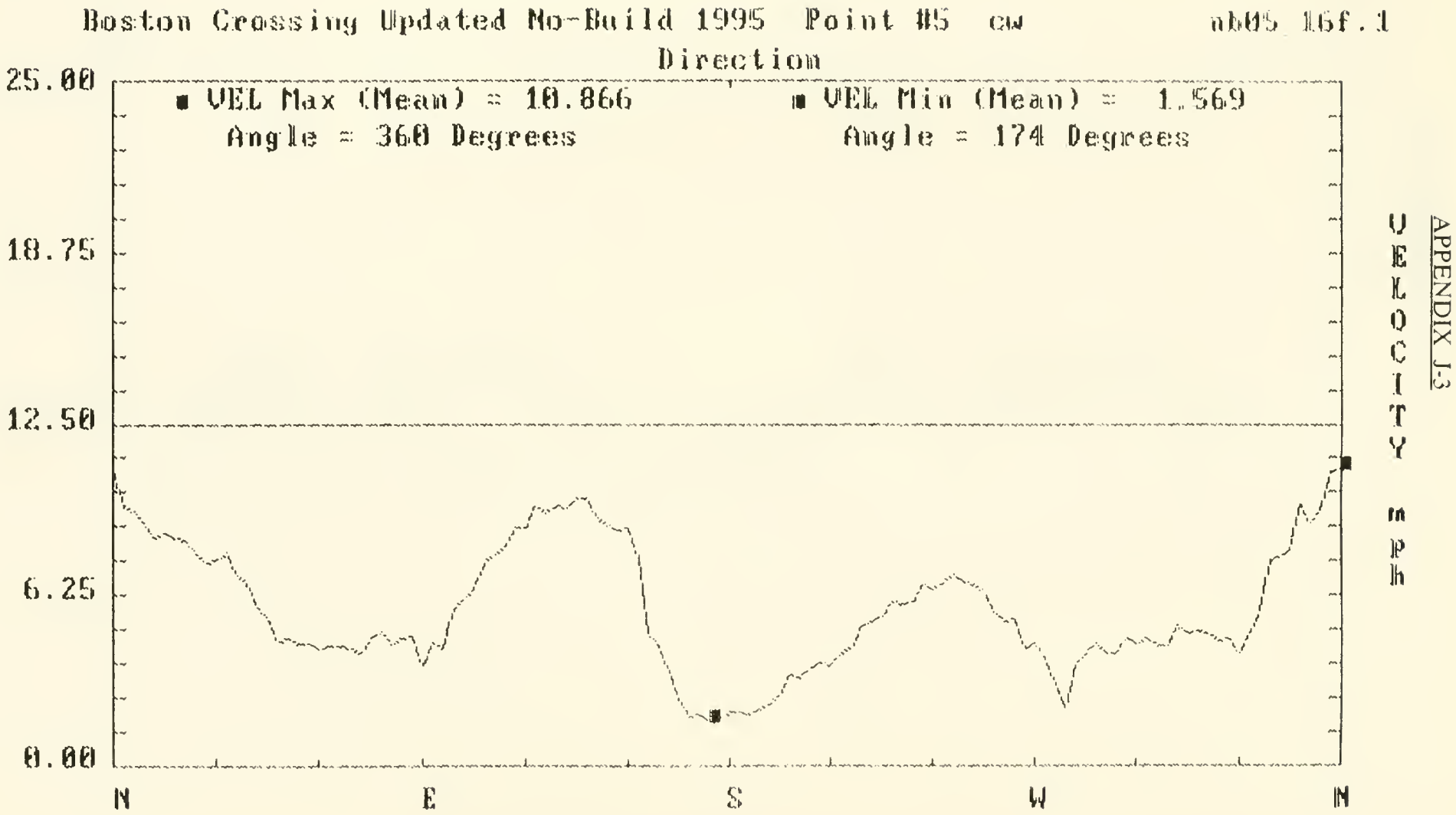

Boston Crossing Amended Design Point #7 ccw bc02_07f.2
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 10.318
Angle = 15 Degrees
VEL Min (Mean) = 1.185
Angle = 72 Degrees
VELOCITY mph

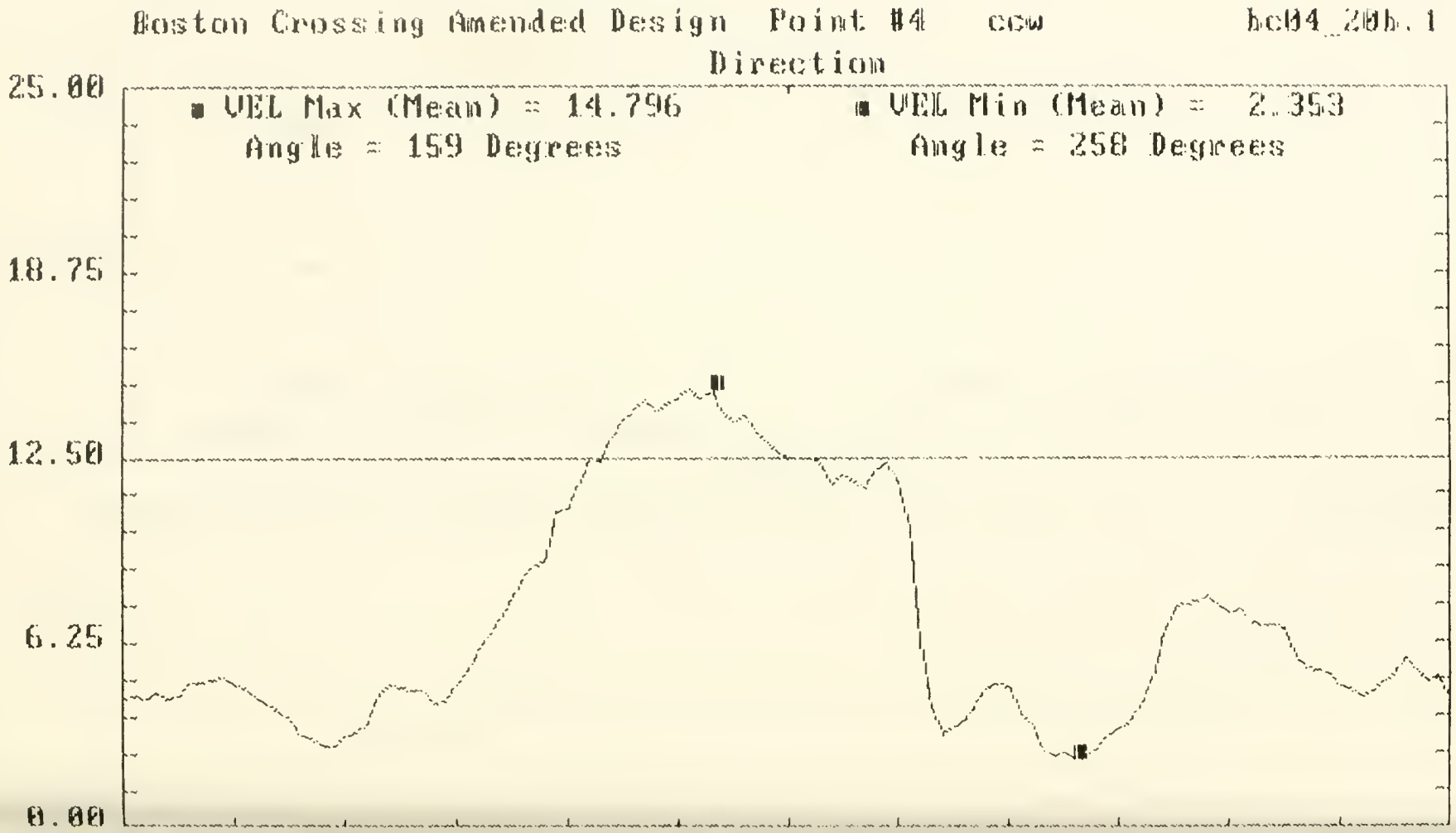

Boston Crossing Updated No-Build 1995 Point 87 cw nb02_07b.2
Direction
VEL Max (Mean) = 11.185
Angle = 348 Degrees
VEL Min (Mean) = 1.578
Angle = 33 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph
N
E
S
W
N

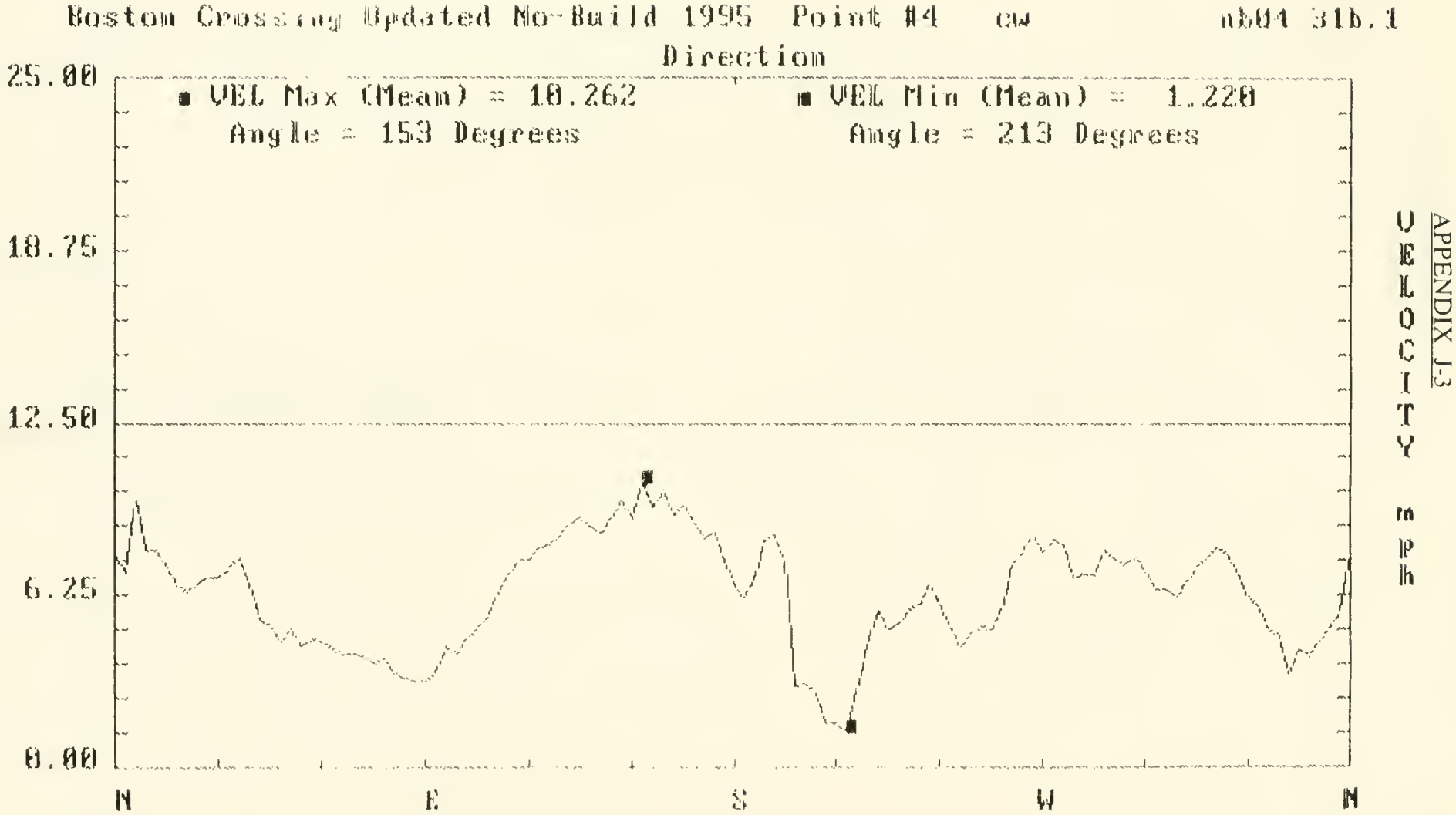

Boston Crossing Amended Design Point #6 ccw bc06_31f.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 13.366
Angle = 21 Degrees
VEL Min (Mean) = 2.196
Angle = 69 Degrees
VELOCITY ft/s


Boston Crossing Updated No-Build 1995 Point #6 cw ab06 40f.1
Direction
VEL Max (Mean) = 8.096
Angle = 186 Degrees
VEL Min (Mean) = 1.420
Angle = 339 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph

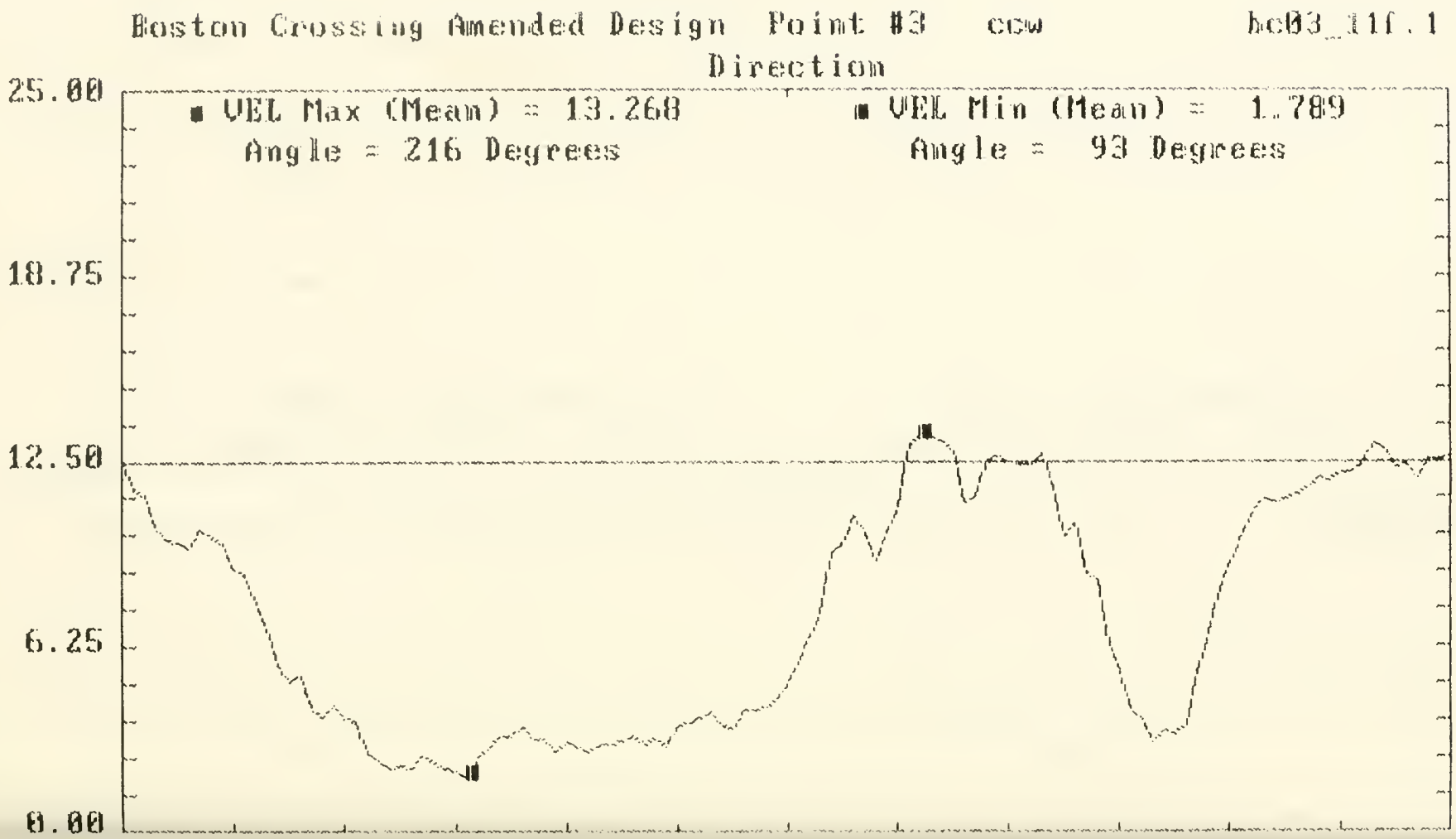

Boston Crossing Amended Design Point #5 ccw bc05 1of.1
Direction
VEL Max (Mean) = 12.737
Angle = 171 Degrees
VEL Min (Mean) = 1.987
Angle = 69 Degrees
25.00
18.75
12.50
6.25
0.00
VELOCITY mph

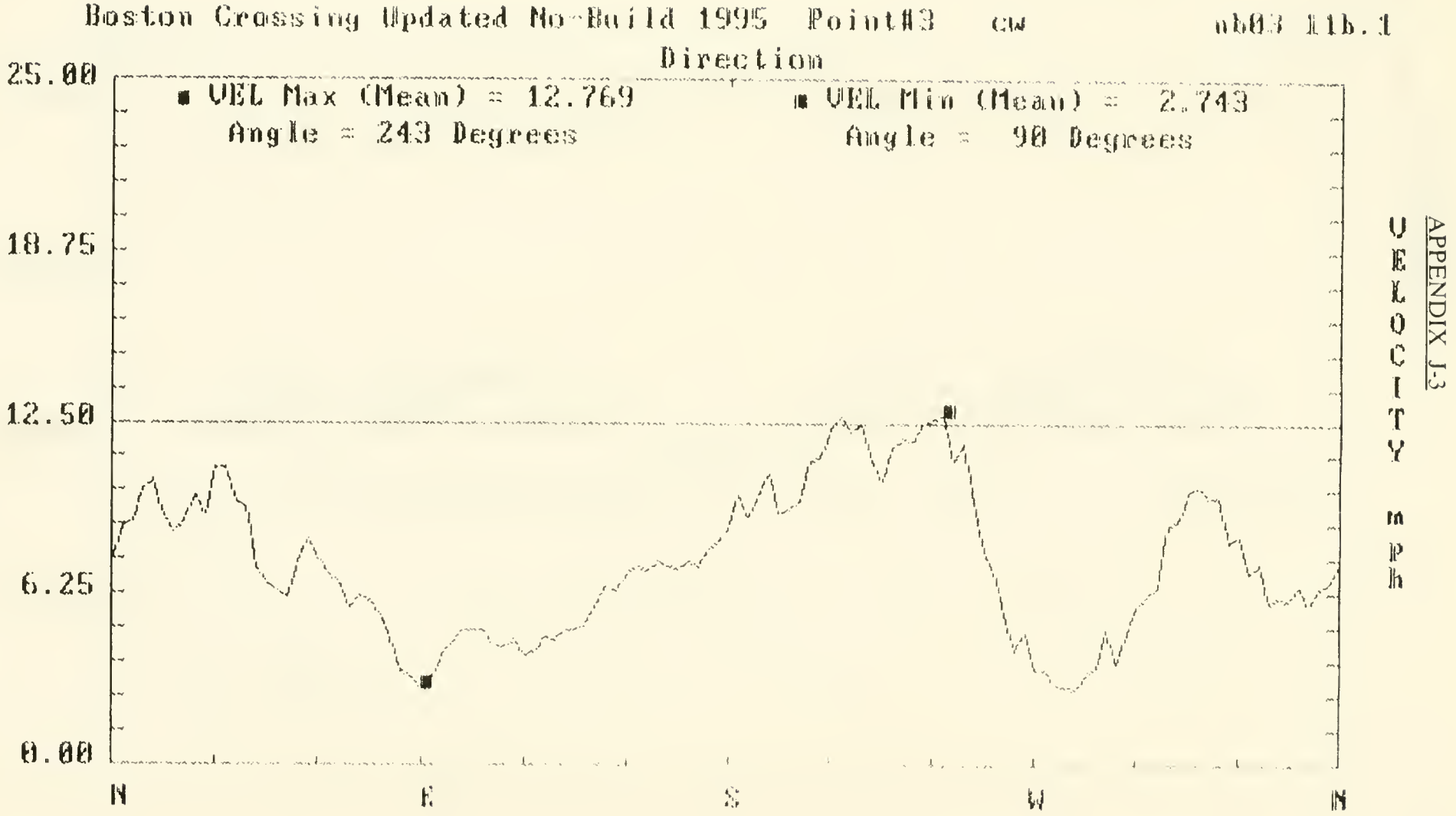

Boston Crossing Updated No-Build 1995 Point #5 cw nb05 16f.1
Direction
VEL Max (Mean) = 10.866
Angle = 360 Degrees
VEL Min (Mean) = 1.569
Angle = 174 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph

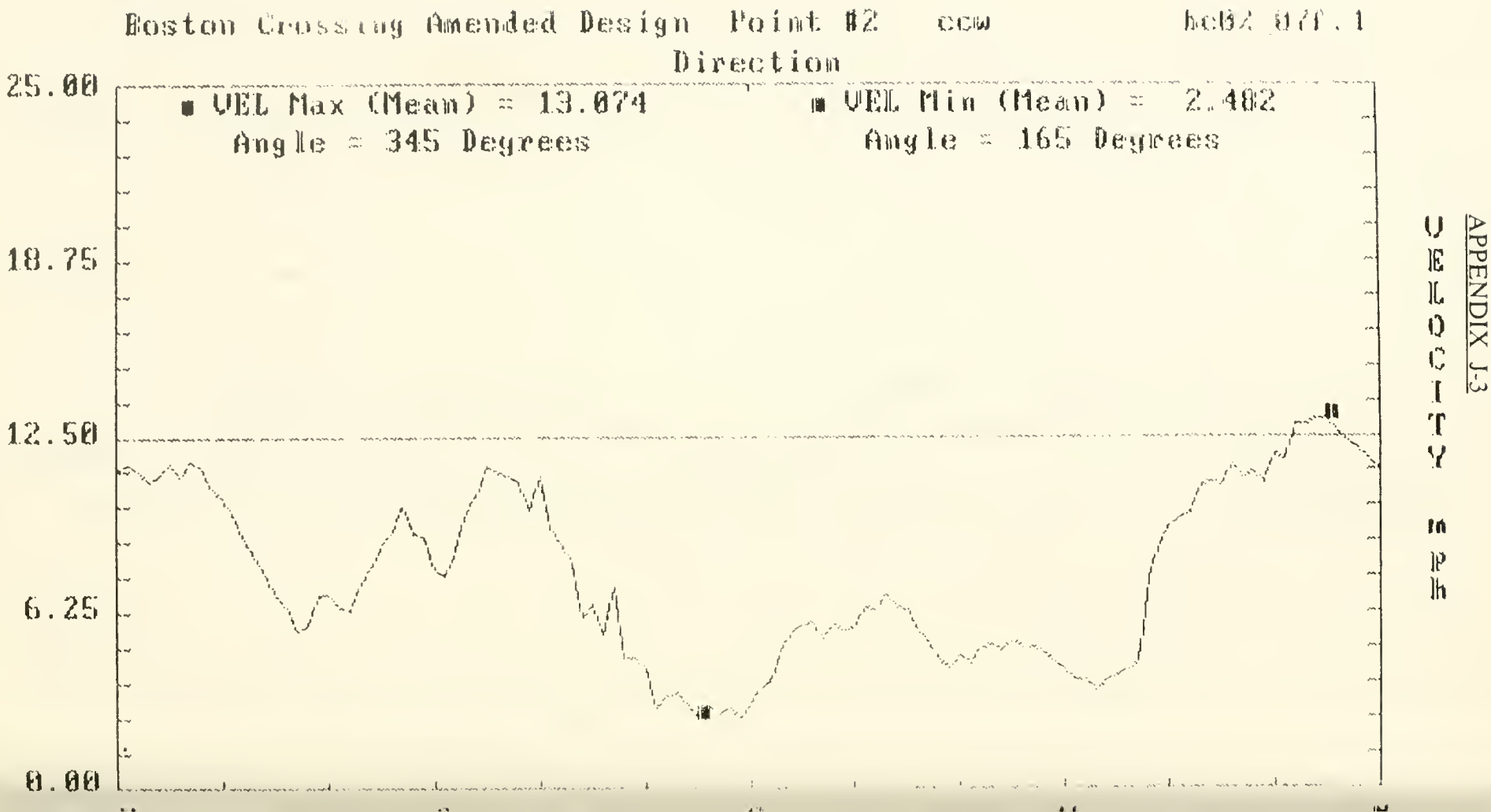

Boston Crossing Amended Design Point #4 ccw bc04_20b.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 14.796
Angle = 159 Degrees
VEL Min (Mean) = 2.353
Angle = 258 Degrees
VELOCITY in ft/s

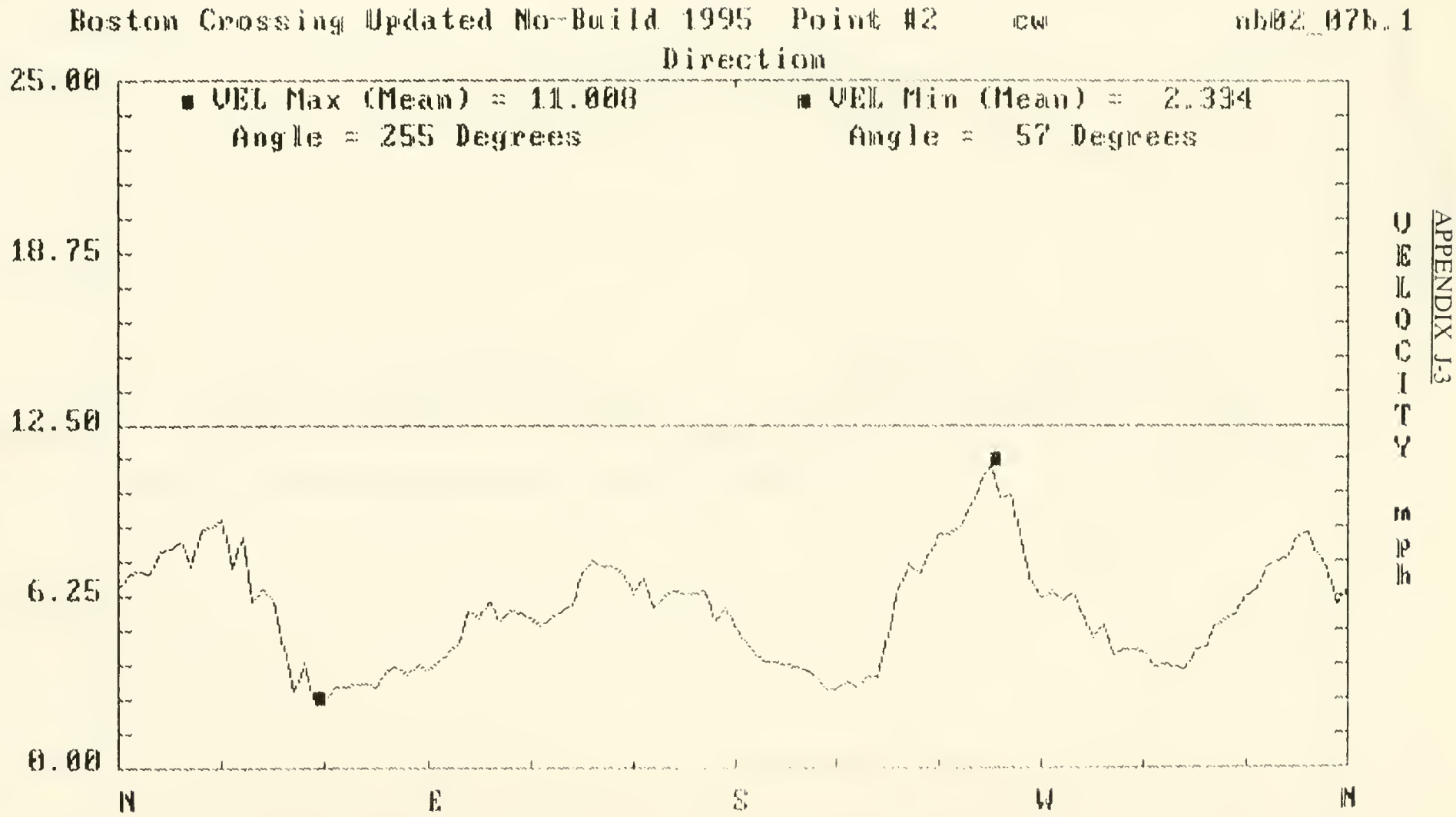

Boston Crossing Updated No-Build 1995 Point #4 cw nb04 31b.1
Direction
VEL Max (Mean) = 10.262
Angle = 153 Degrees
VEL Min (Mean) = 1.220
Angle = 213 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph

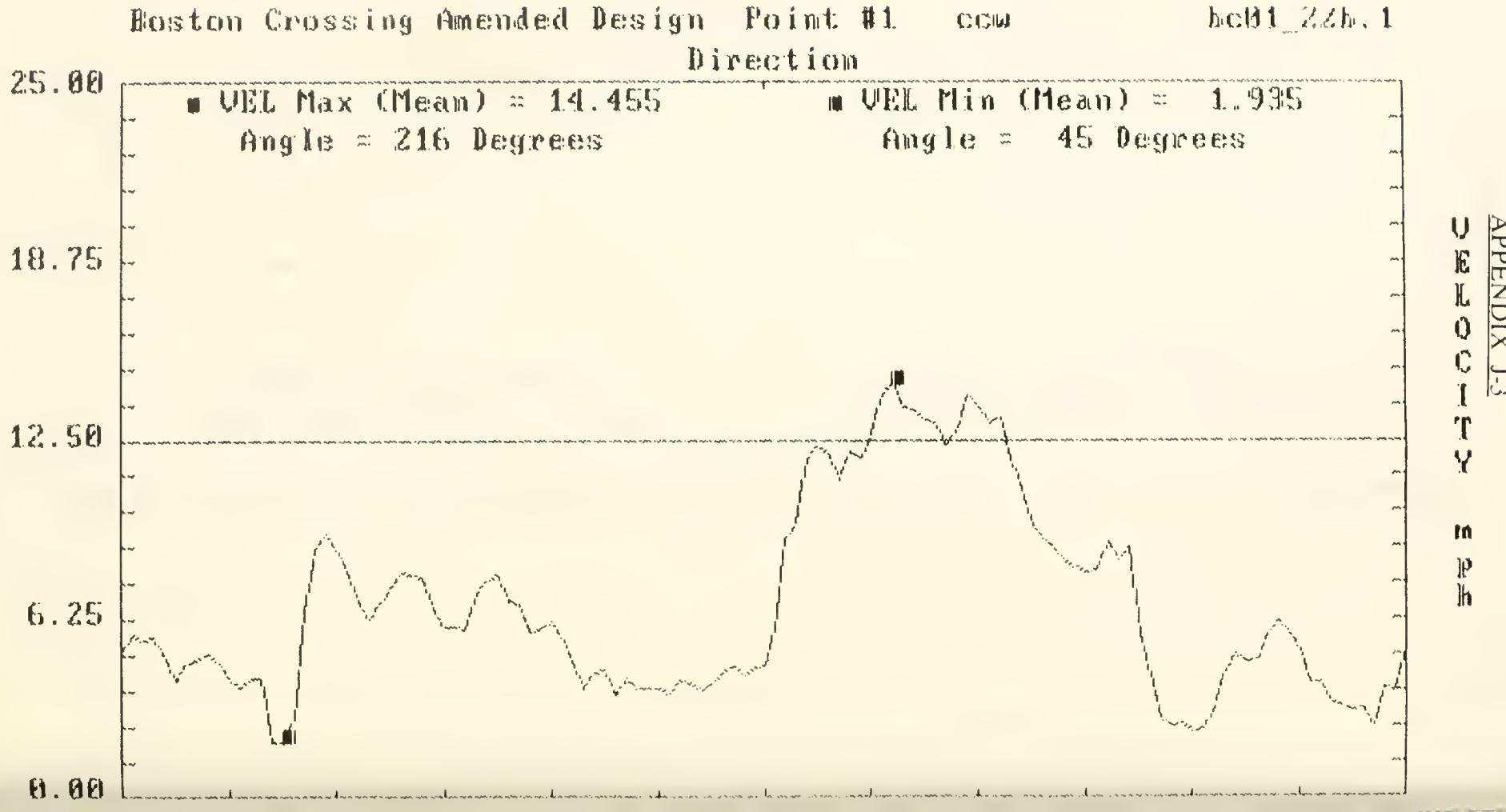
APPENDIX J-3

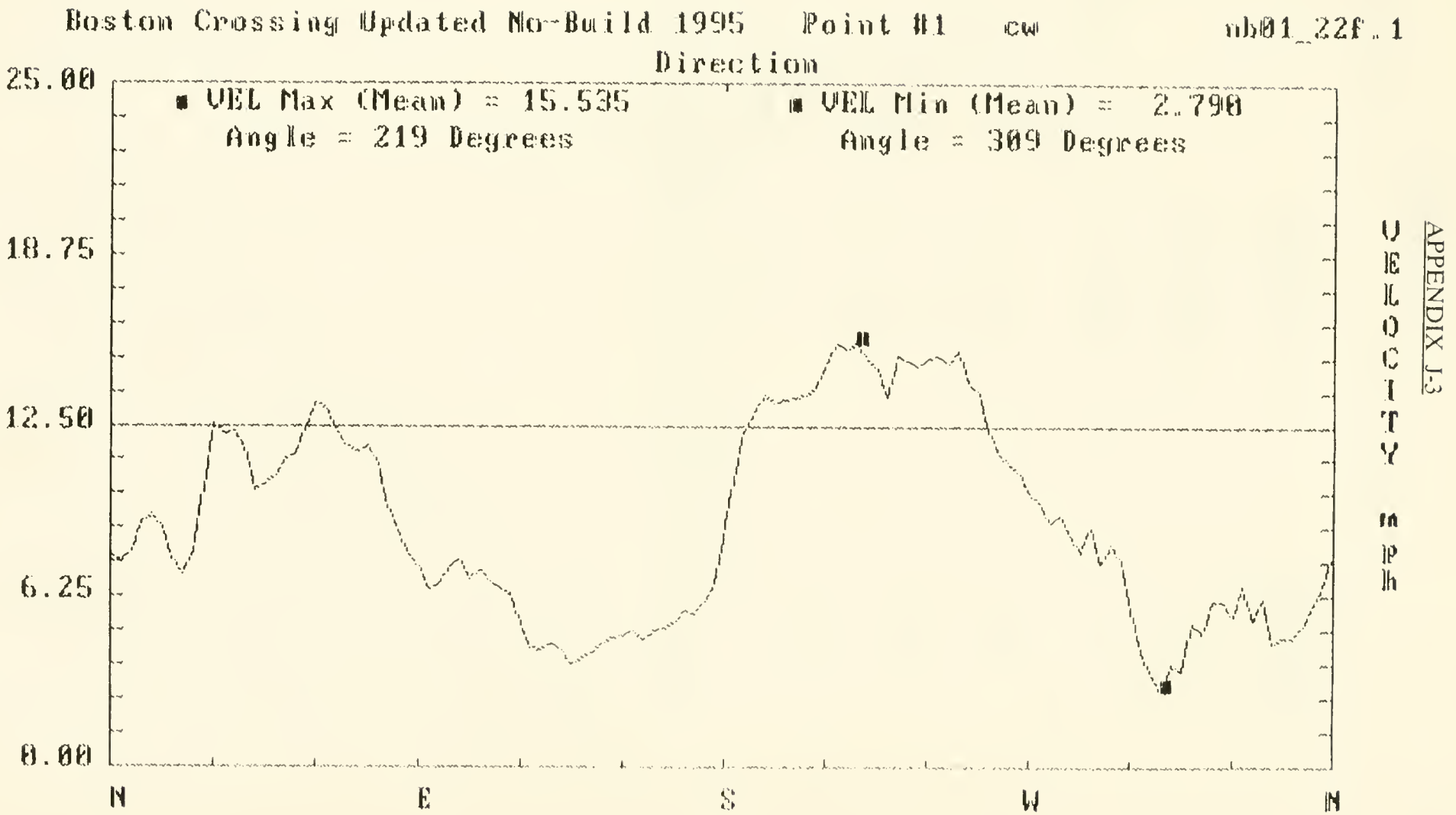

Boston Crossing Amended Design Point #3 ccw bc03_11f.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 13.268
Angle = 216 Degrees
VEL Min (Mean) = 1.789
Angle = 93 Degrees
VELOCITY mph


Boston Crossing Updated No-Build 1995 Point#3 cw nb03 11b.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 12.769
Angle = 243 Degrees
VEL Min (Mean) = 2.743
Angle = 90 Degrees
N
E
S
W
N
VELOCITY mph


Boston Crossing Amended Design Point #2 ccw
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 13.074
Angle = 345 Degrees
VEL Min (Mean) = 2.482
Angle = 165 Degrees
VELOCITY


Boston Crossing Updated No-Build 1995 Point #2 cw nb02_07b.1
Direction
VEL Max (Mean) = 11.008
Angle = 255 Degrees
VEL Min (Mean) = 2.334
Angle = 57 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY mph


Boston Crossing Amended Design Point #1 ccw bcb1_24h.1
Direction
25.00
18.75
12.50
6.25
0.00
VEL Max (Mean) = 14.455
Angle = 216 Degrees
VEL Min (Mean) = 1.935
Angle = 45 Degrees
VELOCITY mph


Boston Crossing Updated No-Build 1995 Point #1 cw nb01_22f.1
Direction
VEL Max (Mean) = 15.535
Angle = 219 Degrees
VEL Min (Mean) = 2.790
Angle = 309 Degrees
25.00
18.75
12.50
6.25
0.00
N
E
S
W
N
VELOCITY in mph

APPENDIX J-3

APPENDIX J-4

PEDESTRIAN SAFETY/COMFORT WIND STANDARDS

Activity Area	Effective Gust Velocity	Permitted Occurrence Frequency
Limit for All Pedestrian Areas	13.8 m/sec (31 mph)	1.0%
Major Walkways Especially Principal Egress Paths for High-Rise Buildings	13.8 m/sec (31 mph)	1.0%
Other Pedestrian Walkways Including Street and Arcade Shopping Areas	11.2 m/sec (25 mph)	5.0%
Open Plazas & Park Areas Walking, Strolling Activities	6.3 m/sec (14.1 mph)	15.0%
Open Plaza & Park Areas Area, Open-Air Restaurants	4.0 m/sec (9 mph)	20.0%

For the purposes of the above standards, "effective gust velocity" is defined as meaning hourly wind speeds + 1.5 root-mean-square of the fluctuating velocity component measured at the same locations over the same time interval.

APPENDIDX K

AIR QUALITY

APPENDIX K
TOTAL YEARLY POLLUTANT EMISSIONS

Total yearly pollutant emissions for each case were calculated using the following equation:

$$TE = E \times VMT \times (2.205 \times 10^{-3}\ lb/g) \times (5 \times 10^{-4}\ tons/lb) \times 365\ days/year$$

where: TE: is the total yearly emissions (tons/year).

E: is the emission rate of vehicles (grams/vehicle-mile).

VMT: is vehicle miles traveled derived from daily vehicles multiplied by miles of roadway.

All roads were estimated to have an average speed of 35 mph. Motor vehicle emission rates used in this analysis were generated by the EPA MOBILE4* computer program. Total emissions of nitrogen oxides (NO_X), and non-methane hydrocarbons (NMHC) are presented in Table K-1.

Complete MOBILE4 output is shown on Table K-2.

Calculations of total yearly NO_X, and NMHC are presented below.

No-Build Vehicle Miles Traveled (NB VMT)

NB VMT = (60,700 vehicles + 55,500 vehicles) 3.35 miles + (63,600 vehicles + 66,900 vehicles) 2.35 miles + (62,200 vehicles + 56,300 vehicles) 1.20 miles + (67, 400 vehicles + 65,200 vehicles) 2.15 miles + (95,500 vehicles + 95,800 vehicles) 2.65 miles + (27,400 vehicles + 28,000 vehicles) 3.10 miles = 1,801,920.00 VMT

---

* EPA, User's Guide to MOBILE4 (Mobile Source Emission Factor Model) EPA-AA-TEB-89-01, Ann Arbor, MI, February, 1989.

TABLE K-1

1995 VEHICLE EMISSION RATES AT 35 MPH

Pollutant	Emission Rate (g/mi)
NO_x	1.24
NMHC	0.92

TABLE K-2

MOBILE4 MESOSCALE ANALYSIS OUTPUT

Boston Crossing Mesoscale

I/M program selected:

Start Year (January 1):	1983
Pre-1981 MYR stringency rate:	14%
First model year covered:	1980
Last model year covered:	1995
Waiver rate (pre-1981):	1.%
Waiver rate (1981 and newer):	1.%
Compliance Rate:	85.%
Inspection type:	Computerized decentralized
Inspection frequency:	Annual
Vehicle types covered:	LDGV - Yes LDGT1- Yes LDGT2- Yes HDGV - No
1981 & later MYR test type:	Idle

Anti-tampering program selected:

Start Year (January 1):	1983
First model year covered:	1980
Last model year covered:	2010
Vehicle types covered:	LDGV, LDGT1, LDGT2
Type:	Decentralized
Frequency:	Annual
Compliance Rate:	50.0%
Air pump system disablements:	No
Catalyst removals:	Yes
Fuel inlet restrictor disablements:	Yes
Tailpipe lead deposit test:	No
EGR disablement:	No
Evaporative system disablements:	No
PCV system disablements:	No
Miss gas caps:	No

1995 MA MESO

ASTM Class: C
Minimum Temp: 75. (F) Maximum Temp: 75. (F)
Base RVP: 11.5 In-use (IU) RVP: 9.0 IU 1st Yr: 1989

Non-methane HC emission factors include evaporative HC emission factors.

TABLE K-2 (Cont'd)

MOBILE4 MESOSCALE ANALYSIS OUTPUT

User supplied vehicle registration distributions.

Cal. Year: 1995 Region: Low Altitude: 500. ft.
I/M Program: Yes Ambient Temp: 75.0/75.0/75.0 F
Anti-tam. Program: Yes Operating Mode: 20.6/27.3/20.6

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh.
Veh. Spd.:	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
VMT Mix:	.714	.117	.081	.015	.024	.011	.029	.010		

Composite Emission Factors (Gm/Mile)

No-Mth HC:	.83	1.11	1.21	1.15	2.48	.27	.37	1.34	2.14	.92
Exhst CO:	4.89	8.11	8.46	8.25	20.33	.75	.84	6.22	10.94	5.74
Exhst NO_x:	.83	1.24	1.26	1.25	5.60	.92	1.05	9.41	1.09	1.24

Stop - Program terminated.

Build Vehicle Miles Traveled (BD VMT)

BD VMT = 1,801,920.00 VMT + (2 x 458 vehicles x 3.35 miles) + (2 x 595 vehicles x 2.35 miles) + (2 x 458 vehicles x 1.20 miles) +(2 x 915 vehicles x 2.15 miles) + (2 x 1785 vehicles x 2.65 miles) + (2, x 183 vehicles x 3.10 miles) = 1,823,413.90 VMT

Total No-Build NO_X, and NMHC (Tons/Year)

TE_{NO_X} = 1.24 g/vehicle miles x 1,801,920 vehicle miles/day x 365 days x 2.205 x 10^{-3} lb/g x 5 x 10^{-4} tons/lb = 899.14 tons/yr NO_X

TE_{NMHC} = 0.92 g/vehicle miles x 1,801,920 vehicle miles/day x 365 days x 2.205 x 10^{-3} lb/g x 5 x 10^{-4} tons/lb = 667.11 tons/yr NMHC

Total Build NO_X, and NMHC (Tons/Year)

TE_{NO_X} = 1.24 g/vehicle miles x 1,823,413.9 vehicle miles/day x 365 days x 2.205 x 10^{-3} lb/g x 5 x 10^{-4} tons/lb = 909.87 tons/yr NO_X

TE_{NMHC} = 0.92 g/vehicle miles x 1,823,413.9 vehicle miles/day x 365 days x 2.205 x 10^{-3} lb/g x 5 x 10^{-4} tons/lb = 675.06 tons/yr NMHC

Percentage Increases Due to Project

NO_X: $\frac{909.87 \text{ TPY} - 899.14 \text{ TPY}}{899.14 \text{ TPY}} = 0.01 \quad 1\%$

NMHC: $\frac{675.06 \text{ TPY} - 667.11 \text{ TPY}}{667.11 \text{ TPY}} = 0.01 \quad 1\%$

APPENDIX L

LETTERS FROM UTILITY COMPANIES

100 YEARS

RECEIVED
SEP 01 1989
P.B.Q.&D.
BOSTON MA.

Parsons Brinckerhoff Quade & Douglas, Inc.
120 Boylston Street
Boston, MA 02116
617-426-7330
Fax: 617-482-8487

Engineers
Architects
Planners

August 29, 1989

Boston Edison Company
1165 Mass. Ave.
Dorchester, MA 02125

Attn: George Hatsopoulos

Re: Boston Crossing Development
Electric Service

Dear Mr. Hatsopoulos:

Campeau Massachusetts, developer of the Boston Crossing Development, has requested that we obtain from you written concurrence that the Boston Edison Co. distribution system is capable of supplying an adequate amount of electricity at the project site to meet operational needs of the development. From our on-going discussion, we have inferred and represented that this is the case. If our understanding is a correct representation of your position, please signify your agreement by signing below and returning this letter to me.

Sincerely,

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Andrew B. Boyd

Andrew B. Boyd, P.E.
Project Manager

We are in agreement with
the above representation of our position

William J. Kramer
District Engineer
Boston Edison Co.

COMMONWEALTH OF MASSACHUSETTS
WILLIAM J. KRAMER
No. 25763
REGISTERED PROFESSIONAL ENGINEER

ABB:arg
cc: L. McQuarrie - Campeau Mass.
C. Geupel - Campeau Mass.

Century of
ngineering Excellence

THERMAL ENERGY
CORPORATION

RECEIVED
SEP 07 1989
P.B.Q.&D.
BOSTON MA.

September 6, 1989

Parsons, Brinkerhoff, Quade, and Douglas, Inc.
120 Boylston St.
Boston, MA 02116
Attn: Mr. Andrew B. Boyd, P.E.

Dear Mr. Boyd:

I have signed and attached your letter of August 29, 1989, attesting to the fact that Boston Thermal has ample capacity to supply all of the thermal needs of the Boston Crossing Development.

I would like to elaborate on the reasons for our strong confidence in this belief. While we have an extensive distribution system throughout the City, the Boston Crossing Development is located in what I would consider one of the best locations. The service connection to the new development would likely be from the 12 inch line in Bedford St. which has a capacity of about 85,000 pounds per hour (this line currently reduces to 6 inch prior to the service entrance for Jordan Marsh, one of the tenants of the proposed Development). The line in Bedford St. branches from a line in Kingston St. which, in one direction, connects directly to one of our main sendout lines from Kneeland Station at Kneeland St. In the other direction, the line in Kingston St. connects to a 14 inch line in Summer St. which in turn is connected to the second of our three main sendout lines from Kneeland in South St. In addition to distribution capacity, we have ample plant capacity to feed the proposed Development.

I hope this helps ease any concerns you may have. I put myself at your disposal to answer any further questions you or your Clients may have, and I look forward to assisting in any way you feel is appropriate.

Regards,

Robert E. Dyson, P.E.
Director of Engineering

cc: Tony Bolyn

210 SOUTH STREET ■ BOSTON, MA 02111 ■ (617) 482-8080

100 YEARS

Parsons Brinckerhoff Quade & Douglas, Inc.
120 Boylston Street
Boston, MA 02116
617-426-7330
Fax 617-482-8487

Engineers
Architects
Planners

August 29, 1989

Boston Thermal Energy Corp.
210 South Street
Boston, MA 02111

Attn: Robert Dyson

Re: Boston Crossing Development
Steam Service

Dear Mr. Dyson:

Campeau Massachusetts, developer of the Boston Crossing Development, has requested that we obtain from you written concurrence that the Boston Thermal distribution system is capable of supplying an adequate amount of steam at the project site to meet operational needs of the development. From our on-going discussion, we have inferred and represented that this is the case. If our understanding is a correct representation of your position, please signify your agreement by signing below and returning this letter to me.

Sincerely,

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Andrew B. Boyd, P.E.
Project Manager

We are in agreement with
the above representation of our position

ABB:arg
cc: L. McQuarrie - Campeau Mass.
C. Geupel - Campeau Mass.

RECEIVED
SEP 11 1989
P.B.Q.&D.
BOSTON MA.

Chron
ABB

New England Telepl
A NYNEX Company
1070 Hancock Street
Floor 4
Quincy, Massachusetts 02169
Phone (617) 847-9066

SEPTEMBER 4. 1989

PARSONS. BRINKERHOFF. QUADE & DOUGLAS. INC.
120 BOYLSTON STREET
BOSTON. MASSACHUSETTS 02116

ATTENTION: MR. ANDREW B. BOYD. P.E.
PROJECT MANAGER

RE: BOSTON CROSSING DEVELOPMENT TELECOMMUNICATION SERVICE

DEAR MR. BOYD:

THE NEW ENGLAND TELEPHONE COMPANY'S DISTRIBUTION NETWORK IS CAPABLE OF PROVIDING FOR THE TELECOMMUNICATIONS NEEDS OF THE DOWNTOWN CROSSING PROJECT(S). IN ACCORDANCE WITH THE CURRENT TARIFF REGULATIONS NOW IN EFFECT. WE ARE RESPONSIBLE FOR THE COMPLETION IN A TIMELY MANNER OF ALL CONSTRUCTION WORK ASSOCIATED WITH PROVIDING TELECOMMUNICATION SERVICE(S) TO CUSTOMER(S). THE BUILDING OWNER AND/OR DEVELOPER IS REQUIRED TO PROVIDE WITHIN THE PRIVATE PROPERTY LINE ADEQUATE ENTRANCE CONDUITS. PIPES. SLEEVES AND/OR TRAYS SUITABLE FOR CABLE PLACEMENT. SPACE FOR ELECTRICAL

PROTECTION AND TERMINATING.
WE STAND READY TO ASSIST YOU DURING THE PROJECT. OUR BICS REPRESENTATIVE IS ALREADY IN CONTACT WITH YOUR ARCHITECTS AND ELECTRICAL ENGINEERS TO INSURE THAT ALL TELEPHONE REQUIREMENTS ARE IDENTIFIED AND PROVIDED FOR. DURING THE NEXT FEW MONTHS MEETINGS WILL BE ARRANGED BETWEEN THE CAMPEAU MASSACHUSETTS DEVELOPMENT TEAM AND THE NEW ENGLAND TELEPHONE COMPANY TO COORDINATE OUR EFFORTS DURING THIS PROJECT. SHOULD YOU REQUIRE ANY ADDITIONAL INFORMATION ON THIS MATTER. PLEASE CONTACT ON (617) 847-9062.

RESPECTFULY,

Paul A. Shea

PAUL A. SHEA
ENGINEER

cc: MR. CHARLES F. BORRUSO
MS. MARY MACINNIS

J. Brown
J. McDonald

Bostongas

Boston Gas Company
201 Rivermoor Street
Boston, Massachusetts 02132
Telephone (617) 323-9210

Mr. Andrew B. Boyd, P.E.
Project Manager
Parsons Brinckerhoff Quade
& Douglas, Inc.
120 Boylston Street
Boston, MA 02116

September 21, 1989

RE: BOSTON - BOSTON CROSSING DEVELOPMENT,
BLOOMINGDALE'S DEPARTMENT STORE

Dear Mr. Boyd:

We have reviewed your preliminary plans received on August 31, 1989 and have the following comments:

We maintain an 85' section of 6" low pressure cast iron gas main (located in Harrison Avenue Ext.) that exists within the proposed area of discontinuance. Since your proposed construction will not allow utilities to remain in this area, we will cut-off and abandon our 6" gas main at your expense.

The total expense to complete the cut-off and abandonment will be $2,400. Upon receipt of your payment, we will proceed with the required work.

Please forward payment to the attention of:

Mr. Dennis Peri, Senior Project Engineer
Boston Gas Company
201 Rivermoor Street
West Roxbury, MA 02132

Thank you in advance.

If you require further assistance, please call me @ 323-9210, extention 238.

Very truly yours,

D. G. Saad

Daniel G. Saad, P.E.
Project Engineer

DGS/tcc

CABLEVISION

RECEIVED
SEP 08 1989
P.B.Q.&D.
BOSTON MA

September 5, 1989

Parsons, Brinckerhoff, Quade & Douglas, Inc.
120 Boylston Street
Boston, MA 02116

Attention: Andrew Boyd

Dear Mr. Boyd:

Cablevision of Boston has reviewed the proposed utility modification plans for the Boston Crossing Development area.

Cablevision currently maintains very little existing facilities within your project area with the exception of a line running up Chauncy Street and dead ending in a vault at the southwest corner of De Lafayette as shown on the enclosed sketch.

Cablevision, however is in the process of providing the Lafayette Hotel with service this construction season. This proposed routing is also shown. Please review this proposed information as it effects your project.

Cablevision has no objections to this project.

Sincerely yours,

Robert Glynn

Robert Glynn
Cablevision of Boston

encl: (1)

RG/faj

CABLEVISION OF BOSTON
28 Travis Street, Boston, MA 02134
617 787-6600

Boston Massachusetts
02110
617 426 2792

Teleport Communications Boston

NOV 28 1989

November 27, 1989

Mr. Hatim Mustafa
Parsons Brinckerhoff
120 Boylston Street
Boston, MA 02116

Dear Sir:

This letter is to confirm that Teleport Communications Boston does not have any facilities in the area of Summer and Washington Streets, Harrison Avenue and Chauncy Streets in Boston. At the present time, we have facilities to 99 Summer Street and on Tremont Street.

If you have any questions, please do not hesitate to call me on 617-426-2792.

Sincerely,

Paul W. Chisholm/scw

Paul W. Chisholm
Vice President/
General Manager

PWC:scw
13112789

APPENDIX M

BRA SCOPING DETERMINATION

OSTON
EDEVELOPMENT
UTHORITY

ıymond L. Flynn
ıyor

ephen Coyle
ector

e City Hall Square
ston, MA 02201
7) 722-4300

April 11, 1989

Carl Geupel
Project Director
Campeau Massachusetts, Inc.
One Avenue de Lafayette
Boston, MA 02111

Dear Mr. Geupel:

Re: BOSTON CROSSING

Enclosed is the Scoping Determination for the Boston Crossing project (the "Proposed Project") for which you submitted a Project Notification Form ("PNF") pursuant to Article 31 of the Boston Zoning Code. The Scoping Determination requests information required by the Boston Redevelopment Authority ("BRA") in response to the PNF you submitted.

Additional information may be required during the course of BRA review of the Proposed Project. If you have any questions concerning the Scoping Determination or otherwise in connection with review of the Proposed Project, please contact William D. Whitney or Nancy A. Tentindo at 722-4300, ext. 4232 or 4387 respectively.

Sincerely,

Stephen Coyle

Enclosure

BOSTON REDEVELOPMENT AUTHORITY

SCOPING DETERMINATION
BOSTON CROSSING

SUBMISSION REQUIREMENTS
FOR DRAFT PROJECT IMPACT REPORT (DPIR)

PROPOSED PROJECT:	Boston Crossing
PROJECT LOCATION:	Chauncy, Washington, and Summer Streets, and Hayward Place
DEVELOPER:	Campeau Massachusetts, Inc.
PNF SUBMISSION DATE:	October 4, 1988, as amended January 23, 1989

The BRA is issuing this Scoping Determination pursuant to Section 31-5 of the Boston Zoning Code (the "Code"). The Applicant filed a Project Notification Form ("PNF") on October 4, 1988, and amended it on January 23, 1989. This Scoping Determination requests information required by the Boston Redevelopment Authority ("BRA") for its review of the Proposed Project in connection with the following:

a) Development Review pursuant to Article 31 of the Code;

b) Recommendations to the Board of Appeal with respect to the zoning relief required for the Proposed Project, pursuant to Articles 6, 6A, and 38 of the Code;

c) Approval of a Development Impact Project Plan, pursuant to Article 26A of the Code, and the entering of agreements for the Development Impact Project Contribution and Jobs Contribution Grant, pursuant to Articles 26A and 26B of the Code; and

d) Approval of a Development Plan pursuant to Section 38-10 of the Code in conformity with the procedures set forth in Sections 3-1A.a and 38-12 and the provisions of Sections 38-11 through 38-16.

PREAMBLE

The BRA is reviewing the Proposed Project pursuant to multiple sections of the Code. The Proposed Project is subject to BRA review and approval pursuant to Article 31 of the Code,

Development Review Requirements, which sets out a comprehensive procedure for project review, and requires the BRA to review the design, transportation, environmental, and other impacts of proposed projects. Article 31 requires the submission of a satisfactory Final Project Impact Report prior to the issuance of a building permit.

In addition, the Proposed Project requires zoning relief pursuant to Articles 6, 6A, and 38 of the Code. The substantive review requirements imparted by these sections address related, but not identical issues which are the basis of Article 31 review. The reviews, however, overlap to a significant degree. Therefore, the BRA is incorporating its review of zoning relief for the Proposed Project into the Article 31 process to eliminate regulatory duplication and consolidate the Proposed Project's review into one process and one set of documents.

The Proposed Project is located in an area in which Planned Development Areas (PDAs) are permitted within the Midtown Cultural District. Since the Proposed Project exceeds the as-of-right limits of Article 38, it will be reviewed pursuant to Sections 38-10 through 16 which establish procedures and requirements for PDAs. The BRA shall treat the submission for Article 31 as an application for Development Plan approval, and shall consolidate the application for Development Plan approval with the DPIR as one set of documents. The DPIR, as an application for Development Plan approval, must be prepared in accordance with Sections 38-10 through 16. This Scope references certain requirements applicable to projects seeking Development Plan approval in PDAs in the Midtown Cultural District with which the Proposed Project must conform.

I. BOSTON CROSSING PROPOSED PROJECT DESCRIPTION

According to the PNF filed on October 4, 1988 the Proposed Project, located on a 7.46 acre site at Downtown Crossing, is bounded by Chauncy, Summer, and Washington Streets and Hayward Place and includes the creation of three new office buildings, new and redeveloped retail space, below-grade parking and loading facilities, and cultural and neighborhood facilities. Uses presently occupying the site include Jordan Marsh, Lafayette Place, the Lafayette Hotel, and a 1,024-car underground garage.

The characteristics of the Proposed Project described in that PNF include:

TOTAL SQUARE FEET:(1)		3,439,000
OFFICE:		1,600,000
Northern Component:	750,000	
Southern Component:	850,000	
RETAIL:		1,426,000

Jordan Marsh:	506,000	
Specialty Retail:	645,000	
Bloomingdales:	275,000	
HOTEL:		413,000
PARKING:	1700-2000 spaces	
SITE AREA:	324,773	
PROPOSED HEIGHTS:	295'/85'/465'	
PROPOSED FAR:	10.6 (9.6 with one FAR bonus for ground floor uses)	

(1) The PNF includes a provision for daycare / cultural / neighborhood facility space of 50,000 square feet either on or off-site which is not included in the total GSF for the Proposed Project. If such space were located on-site, total GSF for the Proposed Project would be 3,489,000.

On January 23, 1989, the proponent notified the BRA of an amendment to the PNF. Changes to the Proposed Project included the consolidation of the twin towers in the northern component into one tower, lowering the tower on the southern component, a reduction in office square footage and the addition of retail square footage. This amendment was later clarified on February 10, 1989 and in subsequent project review meetings. The revised project build-out is as follows:

TOTAL SQUARE FEET:		3,365,000
OFFICE:		1,449,500
Northern Component:	729,000	
Southern Component:	720,500	
RETAIL:		1,425,500
Jordan Marsh:	473,000	
Specialty Retail:	694,500	
Bloomingdales:	258,000	
HOTEL:		413,000
DAYCARE:		12,000
HEALTH CLUB:		55,000
GALLERY/MUSEUM:		10,000
PARKING:	1700-2000 spaces	
SITE AREA:	324,773	
PROPOSED HEIGHTS:	400'/137'/437'	
PROPOSED FAR:	10.36 (9.36 with one FAR bonus for ground floor retail)	

II. THE MIDTOWN CULTURAL DISTRICT PLAN AND ARTICLE 38 OF THE CODE

On January 12, 1989, the BRA adopted the Midtown Cultural District Plan (the "Plan") as the portion of the general plan for the city governing the Midtown Cultural District. On March 6, 1989, the Boston Zoning Commission amended the Code to incorporate Article 38. Article 38 of the Code establishes the zoning regulations which are the legal framework for the realization of the Plan. Pursuant to Article 38, the Proposed Project is located within the Midtown Cultural District.

The Midtown Cultural District Plan was developed to guide the reemergence of Midtown Boston as a center of commerce, culture, and city life. The program that emerged from the community-based planning process calls for the creation of a mixed-use downtown community which will link the Back Bay and Financial District office markets, and reconnect downtown's residential neighborhoods with each other and with the Boston Common and Public Garden.

The primary purposes of the new zoning plan are:

- To direct the Downtown economy in a way that promotes balanced growth for Boston, by preventing overdevelopment of the Financial District and Back Bay commercial areas;

- To revitalize Midtown as the region's center the performing arts, by creating new cultural facilities and rehabilitating existing theaters;

- To protect and provide for expansion of the thriving Chinatown neighborhood, by creating affordable housing, by controlling institutional expansion and by providing neighborhood business opportunities;

- To preserve the historic resources of the district by giving legal protection to more than 100 historic buildings; and

- To create a new residential neighborhood downtown.

Planned Development Areas

Article 38 establishes areas in which PDAs are permitted in order to encourage large-scale private development on underutilized sites while insuring quality design through strict design guidelines and environmental impact standards. Developments within PDAs are required to provide benefits, such as cultural and community facilities, historic restoration, or affordable housing, so as to realize the goals of the Midtown Cultural District Plan.

Pursuant to Section 38-10 of the Code, the Proposed Project is located within an area in which the establishment of PDAs is permitted in the Midtown Cultural District. Specifically, the Proposed Project is located in PDA-II which has a maximum building height range of 155 to 400 feet and FARs of 10 to 14.

Public Benefits in Planned Development Areas

Projects in PDAs must provide benefits sufficient to outweigh burdens in one or more of the following ways:

(a) the construction of a theater or other cultural facility;
(b) the rehabilitation of certain identified landmarks and theaters, or
(c) the provision of Affordable housing.

Theaters or Cultural Facilities

The core of the Midtown Cultural District Plan is the creation of a new center for culture and performing arts. Boston's non-profit arts community and the office of Arts and Humanities has developed a facilities plan to meet the needs of existing arts groups for affordable space. Accordingly, the Midtown Cultural District Plan calls for the creation of:

- A 799-seat Proscenium Theater: to be used by larger dance and theater productions and as a transfer house for productions out-drawing smaller facilities.

- A 499-seat Dance Theater: to be used by the over one dozen established local dance groups and the City's one major dance presenter.

- A 499-seat Flex-Space Theater to be used by the more than 20 local drama groups.

- A 499-seat Asian Arts Theater: to be part of an Asian Arts Center for use by both local and visiting companies.

- A 400-seat Concert Hall: to be used by mid-sized music groups and medium range productions.

- A 200-seat Concert Hall: to be used by local folk and jazz groups, and over a dozen small classical and world music groups.

- A 250-seat experimental Performance Art Theater: To be used for performance art.

- A 199-seat Dance Theater: to be used by small or emerging dance groups.

- Two 199-seat "Black Box" Theaters: to be used by local drama and dance groups for new and experimental work.

The DPIR must specify how the Proposed Project meets the objective of the Plan to create facilities, as noted above, in accordance with Section 38-14.1 Development Plan Approval for Development of a New Theater or Other Cultural Facility, should the proponent choose to meet its public benefit requirement by complying with this section.

Rehabilitation of landmarks or theaters

The Midtown Cultural District's large concentration of late 19th and early 20th century theaters is one of the best examples of an early theater district in the country. However, many of the district's most important historic buildings are in poor condition and need to be renovated.

The DPIR for the Proposed Project must specify how the Proposed Project meets the historic preservation goals of the Plan in accordance with Section 38-14.2 Development Plan Approval for Substantial Rehabilitation of Existing Theaters, Historic Buildings and Landmarks, should the proponent choose to meet its public benefit requirement by complying with this section.

Affordable Housing

The Midtown Cultural District Plan sets a goal of adding 3,000 mixed-income units in the Midtown area with 25 percent affordable for low and moderate-income households. Five hundred of the 3,000 units are to be located in Chinatown. The DPIR must describe how the Proposed Project proposes to achieve the goals of the Plan with respect to affordable housing. Such proposal must meet the requirements of Section 38-14.3 Development Plan Approval for Creation of Affordable Housing, should the proponent choose to meet its public benefit requirement by complying with this section.

Housing and Jobs Linkage

The Midtown Cultural District Plan envisions the targeting of housing and jobs linkage monies from Midtown developments to benefit Chinatown. Such funds would be used by Chinatown Community groups to design, build, and manage new housing in the neighborhood, and to create approximately 1,000 job training slots.

Projected office developments in the Midtown Cultural District are expected to generate about $25 million in housing linkage funds. These funds will help finance the Chinatown Housing Improvement Program's (CHIP) construction of 500 units of affordable housing in Chinatown and at least 150 units of

affordable housing on the Hinge Block. The CHIP program addresses the neighborhood's overwhelming need for affordable housing. There are five parcels of land owned by the city on which 500 units of housing will be built: Parcel R3/R3A, Parcel R-1, Parcel P-2, Parcels P-3, P-4, P-4A, and Parcel P-12. The DPIR should address how the Proposed Project's housing linkage contribution will be used to further the housing goals of Chinatown as expressed in the Midtown Cultural District Plan. The Applicant should expand on its draft proposal to assist in the R3/R3A development, to fund a Housing Stabilization Program which would allow homeowners to borrow funds at below market interest to improve housing stock, to assist in the development of a Chinatown community center, and to conduct engineering studies of neighborhood groundwater problems.

The Midtown Cultural District Plan also includes programs and policies ensuring that members of the Chinatown community have access to the approximately 8,500 construction jobs and 15,000 permanent jobs which will be created in the district.

Since Chinatown is directly affected by major developments planned for the Midtown Cultural District, all of the 1,000 jobs training slots created by jobs linkage funds from Midtown developments will be made available to Chinatown residents. The Plan requires that developers create job training programs that will prepare Chinatown/South Cove residents for jobs at Midtown project sites.

The DPIR for the Proposed Project should detail how the jobs linkage contribution for the Proposed Project will be used to further the objective of the Plan to train neighborhood residents for both the construction and permanent job opportunities created by Midtown development. The Applicant should provide additional information on its draft proposal to fund a Retail Training Academy to train managers and entry-level workers; to sponsor business incubator workshops to train entrepreneurs without previous experience to get a start in business; and to fund an English as a Second Language (ESL) program.

Daycare Facilities

The future economy of the Midtown Cultural District will depend, to a large extent, on the ability of its employers to attract and retain qualified workers. The continuing movement of women into the workplace has resulted in a growing need for safe, affordable day care outside the family home. Article 38 requires that a Proposed Project over one million square feet devote at least 12,000 square feet to day care facilities, either on-site or off-site, within the Midtown Cultural District, Bay Village, or Chinatown. However, at least 4000 square feet must be on-site. The DPIR must specify the location and program for daycare for the Proposed Project in accordance with Section 38-18.4.

Neighborhood Business Opportunities

Article 38 requires that an Applicant for a Proposed Project over 50,000 square feet use Best Efforts to market space within a Proposed Project to Neighborhood Business Establishments from Chinatown. Such Best Efforts must be detailed in a Neighborhood Business Opportunity Plan. The DPIR must contain such a Plan in accordance with Section 38-18.3.

General Design and Environmental Impact Standards in Planned Development Areas

Projects in PDAs must also adhere to certain design and environmental impact standards in addition to those set forth in Article 31 of the Code. These standards concern shadow and wind impacts, transportation access, the skyline, landmarks and historic buildings, and the pedestrian environment. Specific submission requirements necessary to show compliance with these provisions of the Plan are detailed in Sections II, III, IV and V of this Scoping Determination.

Development Plan Approval

Projects in PDAs must proceed according to a Development Plan approved after public hearings by the BRA and the Zoning Commission. The Board of Appeal must approve any exceptions sought. A Development Plan will not be approved by the Boston Redevelopment Authority unless it finds that:

(a) such Development Plan is in substantial accord with the provisions of Section 38-12 (Standards for Development Plan Approval), Section 38-14 (Public Benefit Criteria), and Section 38-16 (General Design and Environmental Impact Standards);

(b) such Development Plan conforms to the Midtown Cultural District Plan and the general plan for the city as a whole;

(c) each Proposed Project described in the Development Plan is in substantial accord with the building height and FAR standards set forth in Section 38-11 (PDAs: Use and Dimensional Regulations) and Table A of Article 38; and

(d) on balance, nothing in such Development Plan will be injurious to the neighborhood or otherwise detrimental to the public welfare, weighing all the benefits and burdens including, without limitation, factors identified in Section 38-14 (Public Benefit Criteria) and Section 38-16 (General Design and Environmental Impact Standards).

The Draft Project Impact Report must address how the Proposed Project meets the objectives of the Midtown Cultural District Plan and conforms with Article 38. The DPIR, as an application

for Development Plan approval, must address how the Proposed Project conforms to Sections 38-10 through 16. In addition, the Draft Project Impact Report for the Proposed Project should specifically address the criteria provided in the Code that must be satisfied in connection with all of the various types of zoning relief required for the Proposed Project.

III. MASSACHUSETTS GENERAL LAWS CHAPTER 121A/BEDFORD WEST URBAN RENEWAL PLAN

Portions of the Proposed Project are governed by 121A Agreements executed pursuant to Chapter 652 of the Acts of 1960 and Massachusetts General Laws Chapter 121A and are therefore subject to the conditions of those Agreements. Any proposed changes to the 121A Agreements are subject to approval by the BRA and the Mayor of the City of Boston. In addition, a portion of the Proposed Project site lies within the Bedford-West Urban Renewal Area. Any minor modifications to the Urban Renewal Plan are subject to the approval of the BRA. Approval of the Draft or Final Project Impact Report does not constitute approval of a change in status of the 121A Agreements, nor does it constitute approval of any possible modification to the Urban Renewal Plan.

IV. DEVELOPMENT REVIEW REQUIREMENTS - ARTICLE 31

Article 31 of the Code institutes a process by which large-scale development projects will be reviewed by the BRA. As previously stated, the BRA is issuing this Scoping Determination pursuant to Section 31-5. The Scoping Determination includes requests for certain information for an alternative development option for the Proposed Project. The Draft Project Impact Report must conform to Article 31 and to this Scoping Determination.

<u>All information in the Submission Requirements below must be supplied for each of the following development options:</u>

A. As-of-Right Option pursuant to Article 38, Section 7

A project based on Section 38-7 which states that a Proposed Project within the Midtown Cultural District is allowed at an as-of-right height of 155 feet and an as-of-right FAR of 10 if such Proposed Project is subject to Article 31 and is subsequently certified as in compliance with Article 31.

B. Planned Development Area Option pursuant to Article 38, Section 10

The Proposed Project is located in PDA II in which projects having heights of 155 feet to 400 feet and FARs of 10 to 14 may be permitted in accordance with the procedure set forth in Section 3-1A.a and Section 38-12, and in accordance with

the substantive requirements set forth in Sections 38-11 through 38-16.

The project as proposed in the Amendment to the PNF filed January 23, 1989 and later clarified February 10, 1989 and in subsequent project review meetings exceeds the as-of-right dimensional requirements. Therefore, this Option may be studied as a PDA pursuant to Section 38-10.

Submission Requirements

In addition to full-size scale drawings, 25 copies of a bound booklet containing all of the following submission materials reduced to size 8½ x 11, except where otherwise specified, are required. In addition, an adequate number of copies must be available for community review.

I. GENERAL INFORMATION

1. Applicant Information

a. Development Team

1. Names

a. Developer (including description of development entity or Chapter 121A entity)

b. Attorney

c. Project consultants

2. Business address and telephone number for each

3. Designated contact for each

4. Description of current or formerly-owned developments in Boston

b. Legal Information

1. Legal judgments or actions pending concerning the Proposed Project

2. History of tax arrears on property owned in Boston by development team

3. Evidence of site control over the project area, including current ownership and purchase options of all parcels in the

Proposed Project, all restrictive covenants and contractual restrictions affecting the Applicant's right or ability to accomplish the Proposed Project and the nature of the agreements for securing parcels not owned by the Applicant

4. Nature and extent of any and all public access easements into, through, or surrounding the site

5. Status and extent of all 121A Agreements governing any portion of the site

6. Nature and extent of requirements arising from the Bedford-West Urban Renewal Plan and related Land Disposition Agreement

2. Financial Information
(See Appendix 1 for required financial information)

a. Full disclosure of names and addresses of all Financially involved participants and bank References

b. Development Pro Forma

c. Ten Year Operating Pro Forma

3. Project Area

a. Description of metes and bounds of project area

4. Public Benefits

a. Article 26a and 26b

- o Development Impact Project Contribution and Jobs Contribution Grant. The amount of the linkage contribution and the method of contribution (payment or creation) must be specified.

- o Description of housing creation proposal and job training programs

b. Chapter 121A

- o Increase in tax revenues and or 121A payments, specifying existing and estimated future annual property taxes

c. Article 38, Section 14

- The DPIR must propose a plan for public benefits in accordance with the provisions of Section 38-14, including one or more of the following:
  - The development of a theater or other cultural facilities
  - The substantial rehabilitation of a Landmark, Historic building or an existing theater; or
  - The provision of Affordable Housing

d. Article 38, Section 18

- Neighborhood Business Opportunity Plan describing Best Efforts to provide opportunities for local businesses and entrepreneurs
- Description and location of day care facilities. An amount equal to at least 12,000 SF must be provided either on-site or within the Midtown Cultural District, Bay Village, or Chinatown provided that at least 4000 SF is on-site.

5. Employment

a. Anticipated employment levels including the following:

1. Estimated number of construction jobs

2. Estimated number of permanent jobs

6. Regulatory Controls and Permits

a. Existing zoning requirements, zoning computations, and any anticipated requests for zoning relief

b. Anticipated permits required from other local, state, and federal entities with a proposed application schedule

c. Because the Proposed Project is subject to the Massachusetts Environmental Policy Act (MEPA), all required documentation and a proposed schedule for coordination with Article 31 procedures

d. Any anticipated amendments to the Bedford-West Urban Renewal Plan and related Land Disposition Agreement

7. Community Groups

a. Names and addresses of project area owners, displacees, abutters, and also any community groups which, in the opinion of the Applicant, may be substantially interested in or affected by the Proposed Project

In accordance with Section 38-15 the proponent must transmit its application for Development Plan approval to appropriate community and neighborhood organizations.

b. A list of meetings proposed and held with interested parties

II. TRANSPORTATION COMPONENT

In accordance with Section 38-16 Planned Development Areas: General Design and Environmental Impact Standards, the Transportation Access Plan required pursuant to Section 31-6 must demonstrate that the location of the Proposed Project with respect to vehicular access and circulation, and proximity to other transportation systems, is suitable for increased floor area. By its design and management, the Proposed Project shall emphasize use of mass transit and feasible measures to be undertaken to limit the impact of the Proposed Project on traffic congestion.

The following comments and submission requirements incorporate those of the Boston Transportation Department ("BTD") regarding transportation issues and objectives for the Proposed Project.

The Proposed Project is one of a number of major proposed developments in the Boylston/Essex Street corridor between the Surface Artery and Park Square. In preparation of the Access Plan, every effort must be made to ensure that assumptions, analytical methodologies, and conclusions are consistent. We suggest that this be done through consultation, sharing of data, and mutual review of draft documents.

To minimize the projected impact of vehicular traffic and enhance pedestrian traffic operations, the Applicant must explore various alternatives to existing local vehicular and pedestrian circulation systems. These alternatives include, but are not limited to, the extension of the Downtown Crossing pedestrian zone to Avery Street, the reversal of Hayward Place and Avery Street to provide an access route to Tremont Street for westbound

traffic with associated intersection improvements, and the merging of Avenue de Lafayette with Essex Street at its east end for a connection to the Central Artery.

These and other alternatives to the circulation systems which would more fully utilize the existing public rights-of-way for vehicular access, address desired pedestrian movements to transit facilities and provide for parking, loading and drop-off uses in a manner which does not impact the character of the block, should be considered.

1. TRAFFIC MANAGEMENT ELEMENT

All traffic analyses must be performed for existing circumstances as well as no-build and build scenarios.

A. Vehicular Traffic

Vehicular traffic analyses must consider proposed vehicular and pedestrian traffic circulation system revisions including (1) the extension of the Downtown Crossing pedestrian zone to Avery Street, (2) the reversal of Hayward Place and Avery Street and (3) the merging of Avenue de Lafayette to Essex Street at its eastern end.

Vehicular traffic operations must be analyzed in the year of projected full occupancy (1995) and include the following information:

- Vehicular traffic demand and generation (including weekday daily and a.m. and p.m. peak-hours, and Saturday peak hour), directional distribution by major corridors modal split and vehicle occupancy analysis with assumptions justified and consistent with analysis for the Commonwealth Center and Kingston-Bedford projects

- Capacity and level-of-service analyses and the impact of the Proposed Project at the intersections listed below and shown in Appendix 4:

  Boylston/Tremont
  Avery/Tremont
  West/Tremont
  Temple/Tremont
  West/Washington
  Essex/Washington
  Beach/Washington
  Stuart/Washington
  Kneeland/Harrison
  Beach/Harrison
  Essex/Harrison/Chauncy

Harrison/Avenue de Lafayette
Chauncy/Avenue de Lafayette
Chauncy/Summer
Kingston/Summer
Kingston/Bedford
Kingston/Essex/Avenue de Lafayette
Columbia/Essex

In addition, Saturday peak conditions must be analyzed for the following intersections:

Essex/Washington
Essex/Harrison/Chauncy
Harrison/Avenue de Lafayette
Chauncy/Avenue de Lafayette
Chauncy/Summer
Kingston/Bedford

- Analysis of Proposed Project impact on the intersections and roadway network as shown in Appendix 4 that reflects such phenomena as back-up from one intersection blocking another, pedestrian conflicts, servicing and loading at adjacent buildings, and delays caused by cars weaving

- Estimated taxi trips to the site

- Estimated truck and service vehicle traffic to the site

Background projects to be included in the impact evaluation must be reviewed with BRA and BTD staff prior to the analysis. Specific known background projects in the area expected to influence travel patterns in the 1994 conditions include:

- Parkside East
- Parkside at Mason
- 125 Summer Street
- 600 Washington Street
- Pavilion at Park Square
- 146 Boylston Street
- 40 Franklin Street
- Kingston/Bedford
- 90 Tremont Street
- 110-120 Tremont Street
- 45 Province Street
- 64-74 Franklin Street
- 73 Tremont Street addition
- 295 Devonshire Street
- South Cove Parcel C-2
- Parcel R-3/R-3A

- Don Bosco
- Commonwealth Center
- Post Office Square Park and Garage
- One Bowdoin Square

The status of these projects must be confirmed prior to analysis and additional projects may be added, as necessary.

B. Public Transportation

- Location and availability of public transportation facilities

- Usage and capacity of the existing system

- Projected transit trip generation resulting from the Proposed Project

- Peak-hour demand and capacity analysis for each transit corridor and service

- Discussion of planned or proposed improvements to the mass transit system (such as the South Boston connector, and new entrances into the transit system)

C. Pedestrian Circulation

The site is located adjacent to Downtown Crossing and the PNF proposes to extend the pedestrian zone on Washington Street to Avery Street. Pedestrians cross the site from numerous directions. Moreover, connections to existing public transportation facilities influence the pedestrian movements in the area. The pedestrian traffic analysis must assess the pedestrian circulation patterns for the year of full occupancy (1995) and address the following issues:

- Pedestrian conditions in the Transportation Impact Area shown in Appendix 4, including identification of pedestrian activity, circulation deficiencies and barriers, and measures to improve such conditions

- Demand and capacity analysis on the following project area sidewalks and pedestrianized streets:

    - all sidewalks and intersections abutting the project
    - Winter Street
    - Summer Street from Chauncy to Otis
    - Bedford Street from Kingston to Chauncy
    - the Harrison Avenue extension
    - Washington Street from Essex to Hayward Place

Capacity analyses must include specific pedestrian count data for the weekday a.m., midday, and p.m. peak periods and Saturday peak hours.

- Identification of pedestrian corridors within the site and in the immediate vicinity of the Proposed Project including the pedestrian zone on Washington Street and its extension to Avery Street, pedestrian connections between Chauncy Street and Washington Street and between Hayward Place and Summer Street (including indoor and outdoor connections through the project open to public crossing). Detail on public easements through and within the site must be provided. Provisions for security and safety must be described.

- Analysis of impacts on pedestrian circulation from the closing of Avenue de Lafayette and from extending the pedestrian zone on Washington Street to Avery Street

- Area-wide origin and destination study of pedestrian traffic in site area, including "desire lines" for access through, within, and around the project site

- Site plans for any interior "passageway" proposed as a pedestrian crossing

- Connections to public transportation station stops

- Effect on pedestrian flows of project parking and service entrances and exits

D. Loading

- Number of docks

- Location and dimension of existing and proposed docks

- Project demand for loading generated by different uses

E. Internal Circulation

- Size and maneuvering space on-site or in public right-of-way and the internal maneuvering space for trucks of all sizes, especially with regard to the disruption of on-street traffic flow by trucks backing in or out

- Access, curb cuts, and/or sidewalk changes required

- Analyses of access to loading docks under a variety of access scenarios

F. Mitigation Measures

- Measures to encourage public transportation use and mitigate project impact on public transit including:
  - Mass transit information dissemination
  - MBTA pass sales and subsidies
- Measures to reduce peaking, including:
  - Travel demand modifications
  - Roadway/traffic operation improvements
  - Encouragement of flexible work hours
  - Restrictions on service and goods deliveries
- Measures to mitigate project impacts on pedestrian traffic including:
  - Improvements to the pedestrian environment
- Measures to reduce peaking, including:
  - Encouragement of flexible work hours
  - Restrictions on service and goods deliveries

2. PARKING MANAGEMENT ELEMENT

For the purposes of analyzing parking impacts, the Parking Study Area shown in Appendix 5 must be studied.

The Parking Study Area includes all public parking facilities within a reasonable walking distance of the project, Woolworth's garage, 45 Province Street, the Boston Common garage, the Motor Mart garage, Kingston-Bedford, Washington Street garage, Post Office Square, and the State Transportation Building.

A. Existing parking conditions in the Parking Study Area, including parking characteristics in proximity to the site supply of parking, both on-and off-street and parking demand by user type and time of day and week

B. Projected change in background parking supply by 1995 and total area parking supply in 1995

C. Proposed Project's impact on demand for parking

D. Number of spaces provided indicating public and private allocation

E. Parking plan for the Proposed Project, including layout, access, and size of spaces and the level of utilization of spaces by different user types

G. Evidence of compliance with City of Boston parking freeze requirements

H. Detailed discussion of parking management issues for the Proposed Project, including rate structure for public parking spaces, number of high-occupancy vehicle spaces, hours of operation, etc.

I. Mitigation Measures

Measures to manage and reduce parking demand and optimize use of available parking spaces, including:

- Structuring rates to discourage all-day use by commuters in single occupancy vehicles
- Ride-sharing incentives and information dissemination
- Set-asides for high-occupancy vehicles (specify number and location)
- Set-asides for after-morning commuter peak (10:00 A.M.) (specify number)
- The degree to which joint use of spaces can result in lower parking space demand

3. CONSTRUCTION MANAGEMENT ELEMENT

The following information must be included as part of the Draft Project Impact Report.

A. Management Plan

- Hours of construction activity
- Maximum number of construction workers and vehicles per day
- Number of affected travel lanes; location of affected intersections and the extent to which they are affected; location of affected sidewalks and the extent to which they are affected

- Location of staging and the extent to which it affects the site
- Construction vehicle timing and routes of deliveries to the proposed project
- Location of construction vehicle and worker parking (on or off site)
- Route of any detours, pedestrian or vehicular caused by construction

B. Mitigation Measures for impacts on pedestrian and vehicular traffic during the construction period including:

- Worker parking and commuting plan
- Alternative modes of transport for employees and materials to and from the site and restrictions on schedules and routes of vehicular movements
- Staggered hours for vehicular movement
- Traffic controllers to facilitate equipment and trucks entering and exiting the site
- Covered pedestrian walkways
- Location of construction staging areas
- Measures to protect the public safety and ensure vehicular and pedestrian access to all the streets surrounding the project
- Appropriate construction equipment and proper storage of materials and equipment

C. Designation of a liaison between the Proposed Project, public review agencies, and the surrounding businesses and communities

In addition to the foregoing construction management requirements, the Boston Transportation Department requires the submission of a Traffic Maintenance Plan in conformity with the City's Construction Management Program. The requirements for the Traffic Maintenance Plan are attached as Appendix 6.

4. MONITORING ELEMENT

A long-term program to monitor the travel behavior of project tenants and other users of the site must be submitted. Information must include travel mode, vehicle occupancy rate, and employee origin-destination surveys.

III. ENVIRONMENTAL PROTECTION COMPONENT

1. Wind

In accordance with Section 38-16 Planned Development Areas: General Design and Environmental Impact Standards, the Proposed Project must be designed to avoid excessive and uncomfortable downdrafts on pedestrians. The Proposed Project must be shaped, or other wind-baffling measures must be adopted, so that the Proposed Project will not cause ground-level ambient wind speeds to exceed the standards in Table B of Article 38, reproduced herein in Appendix 2.

A quantitative (wind tunnel) analysis of the potential pedestrian level wind impacts is required for the Draft Project Impact Report. This analysis must determine potential pedestrian level winds adjacent to and in the vicinity of the project site and must identify any area where wind velocities are expected to exceed acceptable levels, including the BRA's pedestrian safety/comfort wind standards (Appendix 2). Particular attention must be given to public and other areas of pedestrian use, including, but not limited to, the entrances to the project and adjacent buildings, the sidewalks adjacent to and opposite the project buildings, the Downtown Crossing pedestrian area, the Boston Common, and the Proposed Project open space areas and pedestrianways. Specific locations to be evaluated will be identified in consultation with BRA staff after preliminary qualitative wind studies have been performed.

The wind tunnel testing must be conducted in accordance with the following guidelines and criteria:

- Data must be presented for both the future baseline (no-build) and for the future build scenario(s).
- The analysis must include the mean velocity exceeded 1% of the time and the effective gust velocity exceeded 1% of the time. The effective gust velocity must be computed as the hourly average velocity plus 1.5 x root mean square variation about the average. An

alternative velocity analysis (e.g., equivalent average) may be presented with the approval of the BRA.

- Wind direction must include the sixteen compass points. Data must include the percent or probability of occurrence from each direction on seasonal and annual bases

- Results of the wind tunnel testing must be presented in miles per hour (mph)

- Velocities must be measured at a scale equivalent to an average height of 4.5-5 feet.

- The model scale must be such that it matches the simulated earth's boundary and must include all buildings recently completed, under construction, and planned within at least 1,500 feet of the project site. All buildings taller than 25 stories and within 2,400 feet of the project site must be placed at the appropriate location upstream of the project site during the test. Prior to testing, the model must be reviewed and approved by the BRA. Photographs of the area model must be included in the written report.

- Sampling time must be about (166000/(m x Vgr)) sec, where m is the scale ratio (300-600) and Vgr the gradient velocity in the wind tunnel in mph. The measuring device used to measure the ground winds must have a flat frequency response from dc. to a cut-off frequency of ([m x Vgr]/720) hz.

- The written report must compare mean and effective gust velocities on annual and seasonal bases, for no-build and build conditions, and must provide a descriptive analysis of the wind environment and impacts for each sensor point, including such items as the source of the winds, direction, seasonal variations etc., as applicable. The report must also include an analysis of the suitability of the locations for various activities (e.g., walking, eating, sitting, etc.) as appropriate, in accordance with recognized criteria.

- The report must also include a description of the testing methodology and model, and description of the procedure used to calculate the wind velocities (including data reduction and wind climate data). Detailed technical information and data may be included in a technical appendix but must be summarized in the main report.

- The report must include maps indicating sensor locations and wind speed data, graphically indicating changes in wind speed due to the project.

For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impact must be identified and tested in the wind tunnel.

2. Shadow

In accordance with Section 38-16 Planned Development Areas: General Design and Environmental Impact Standards, the Proposed Project must be arranged and designed in a way to assure that it does not cast shadows for more than two hours from 8:00 A.M. through 2:30 P.M., on any day from March 21, through October 21 in any calendar year, on any single Shadow Impact Area, depicted on Map 1A of the Code and Appendix D of Article 38, that either (a) is not cast in shadow during such period on such days by structures existing as of the effective date of Article 38; or (b) would not be cast in shadow during such period on such days by structures built to the as-of-right limits allowed by Article 38, whichever structures cast the greater shadow, provided that an area of the Boston Common not to exceed one acre may be shaded beyond the two-hour period, such area to be calculated as the sum of the areas shaded at the two-hour limit by the Proposed Project and all structures constructed after the effective date of this article exceeding the building sizes described in clauses (a) and (b), above. Any Proposed Project casting any net new shadow on the Boston Common by reason of its exceeding the building clauses (a) and (b), above, shall be required to mitigate the impact by contributing to turf, tree, statuary, park furniture, and path maintenance and capital improvements that are designed to promote the passive or active enjoyment of the Boston Common.

A shadow analysis is required for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice. It should be noted that due to time differences (daylight savings vs. standard) the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadows studies are required for the vernal and autumnal equinoxes.

Shadow analyses are also required for 10:00 a.m., 11:00 a.m. 12:00 noon, 1:00 p.m., and 2:00 p.m., for October 21 and November 21.

The shadow impact analysis must include net new shadow as well as existing shadow and must clearly show the incremental impact of the proposed buildings. Shadows of surrounding buildings also must be included, as appropriate, to indicate clearly the new shadow impact of the project. The following proposed projects in the vicinity scheduled to be completed by 1995 must be included: 125 Summer Street, 40 Franklin Street, Kingston-Bedford, Commonwealth Center, Parkside East, West, and Mason, 90 Tremont Street, and 110-120 Tremont Street.

Particular attention must be given to existing or proposed public open spaces and major pedestrian areas including, but not limited to, the sidewalks surrounding the project site, the Downtown Crossing pedestrian zone, Boston Common, Filene's Park, open spaces and pedestrianways to be created as part of the Proposed Project, and the facades of historic buildings listed in Section V. Design or other mitigation measures to limit or minimize any adverse shadow impact must be identified and analyzed.

3. Daylight

A daylight analysis for both build and no-build conditions must be conducted by measuring the percentage of skydome that is obstructed by the Proposed Project building. The analysis must include all streets surrounding the project site.

4. Air Quality

The DPIR must describe the existing air quality in the project vicinity and must evaluate ambient levels to determine conformance with the National Ambient Air Quality Standards of the U.S. Environmental Protection Agency.

A future air quality (carbon monoxide) analysis is required for any intersection where level of service is expected to deteriorate to D and the project causes a 10 percent increase in traffic or where the level of service is E or F and the project contributes to a reduction of LOS. The methodology and parameters of the traffic-related air quality analysis must be approved in advance by the Massachusetts Department of Environmental Quality Engineering and the Boston Redevelopment Authority. Mitigation measures to eliminate or avoid any violation of air quality standards must be described.

In addition, a description of the garage exhaust system including location of exhaust vents and specifications, and an analysis of the impact on pedestrian level air quality from operation of the exhaust system are required. Measures

to avoid any violation of air quality standards must be described.

5. Solid and Hazardous Wastes

The presence of any contaminated soil or groundwater must be identified, and measures that will be employed to ensure their safe removal and disposal must be described. A copy of the Chapter 21E Site Investigation Report must be included in the DPIR.

The generation of solid wastes (construction period and operation of the project) and plans for removal and disposal must be described.

6. Noise

An evaluation of ambient noise levels in the vicinity of the project site must be provided in the DPIR. Anticipated long-term noise increases from project-generated traffic and from the project's building mechanical equipment must be evaluated. Measures to minimize noise production and impact must be described.

7. Geotechnical Impact

An analysis of existing sub-soil and groundwater conditions, potential for ground movement and settlement during excavation, and potential impact on adjacent buildings, utility lines, and the Washington Street and Summer Street MBTA subway tunnels is required. This analysis also must include a description of the foundation construction methodology, the amount and method of excavation and disposal of the excavated material, and measures to prevent any adverse effects on adjacent building, utility lines, and subway tunnels.

The Proposed Project includes underground parking, in which case excavation below the existing watertable will be required. Therefore, an analysis is required of the impact of foundation construction on the maintenance of the groundwater levels and on foundation supports (e.g., wood piles) of adjacent structures. Measures to ensure that groundwater levels will not be lowered during or after construction must be described.

8. Construction Impacts

A construction impact analysis must be performed only for Option B at this time. The Applicant must indicate whether any substantially different construction impacts would

result under Option A. The implications of the project's phasing on construction related-impacts must be noted.

The construction impact analysis must include a description and evaluation of the following:

a. potential dust and pollutant emissions and mitigation measures to control these emissions

b. potential noise impact and mitigation measures to minimize increase in noise levels

c. location of construction staging areas and construction worker parking

d. construction schedule, including hours of construction activity

e. access routes for construction trucks and anticipated volume of construction truck traffic

f. method of demolition of the existing buildings on site, control of emissions, asbestos removal (if required), and disposal of the demolition waste, including identification of the disposal site

g. measures to protect the public safety

h. relationship of project construction to the construction of the Commonwealth Center and Kingston-Bedford projects, including evaluation of cumulative construction-related impacts and measures to avoid conflicts or other adverse impacts.

9. Rodent Control

An analysis of the impact of project construction on rodent populations and a description of the proposed rodent control program and compliance with applicable City and State regulatory requirements is required.

IV. URBAN DESIGN COMPONENT

1. Urban Design Objectives

The DPIR must address the urban design standards set forth in Section 8 of Article 31 of the Code, as well as the urban design objectives and specific design requirements for the Midtown Cultural District set forth in Article 38.

In accordance with Section 38-16.4 Planned Development Areas: General Design and Environmental Impact Standards, Skyline Plan, the Proposed Project must be generally consistent in height and form with the modified high spine/cluster skyline plan described in the text of the Midtown Cultural District Plan.

In accordance with Section 16.6 Planned Development Areas: General Design and Environmental Impact Standards, Enhancement of Pedestrian Environment, the Proposed Project must enhance the pedestrian environment, by means such as: (a) pedestrian pathways connecting to mass transit stations; (b) spaces accommodating pedestrian activities and public art; (c) materials, landscaping, public art, lighting, and furniture that enhance the pedestrian environment; (d) shopping or entertainment opportunities, including interior retail uses; (e) pedestrian systems that encourage more trips on foot; and (f) other attributes that improve the pedestrian environment and pedestrian access to mass transit stations; (g) appropriate management and maintenance of public space within the Proposed Project; and (h) preservation or recreation of the historic street pattern of the district through well defined, clearly delineated exterior or interior pedestrian passageways and through block corridors.

In accordance with Section 38-19 Specific Design Requirements, the Proposed project must comply with the specific design requirements established in Article 38 for the following areas:

- Section 38-19.1 Street Wall Continuity
- Section 38-19.2 Street Wall Height
- Section 38-19.3 Display Window Area Regulations
- Section 38-19.4(a) Sky Plane Setbacks
- Section 38-19.4(b) Maximum Floorplates
- Section 38-19.4(c) Principal Facade
- Section 38-19.4(d) Corner Conditions for Corner Lot Buildings
- Section 38-19.4(e) Minimum Tower Distances

In addition, the following design objectives must also be addressed in the development and analysis of all options:

a. The Proposed Project is located within or near four distinct districts: Downtown Crossing, the Cultural District, Chinatown, and the Financial District. Therefore the Proposed Project should be designed to respond to this context in terms of the view from surrounding streets, the positioning of entrances, and the siting of businesses and public spaces.

b. City streets providing light, air, circulation, views, and vistas are the primary elements of the public realm in the downtown shopping district. The public is concerned about the transfer of streets to private interests for private use, and, in general, aims to reclaim previously existing streets for public Therefore, an analysis must be made of the effect of (1) retaining the Avenue de Lafayette corridor and its vista of the Opera House facade (2) reopening the Bedford-West Street corridor with its strong visual connection between the Kingston-Bedford development parcel and the Common, and (3) reopening the Harrison-Hawley Street corridor.

c. The typical block pattern and parcel size in the Washington Street Commercial Palace District and in the Ladder Blocks give the area a familiar, intimate scale that is conducive to retail activity. The development concept should avoid the "megastructure" approach and instead enhance the district pattern with built elements similar in horizontal dimensions to existing buildings, and with streetwalls that do not exceed traditional block lengths without substantial openings for pedestrian streets and public spaces.

d. The commercial strength of the district derives from the continuity of retail use at the streetfront and the high frequency of retail entries and display elements. Washington, Summer, and Chauncy Streets should have continuous retail use at street level with frequent entries, views of retail activity inside, and show windows.

e. The successful blocks of retail activity downtown and in the Back Bay depend on street walls that not only provide continuity of use, but also a sense of containment that reinforces the character of the district and creates a well-defined place to shop. Accordingly, the proposed Midtown Cultural District Zoning requires continuity of the streetwall and limits the streetwall height to 90'. The Proposed Project must conform with this standard.

f. Retailing needs the support of a comfortable environment to be successful. Projects on upper Washington Street dramatically underscore the negative effects of wind and sunlessness as compared with the more pleasant conditions at Downtown Crossing where the traditional building scale prevails. New shadow and wind at street level, particularly during the lunch-time shopping hours should be avoided, and ample ambient daylight should be preserved. These

considerations are particularly important during the holiday shopping season. Information from the wind and shadow elements of the Environmental Component should be evaluated from the urban design perspective as well.

g. As well as sometimes creating windy conditions on the street, tall buildings visually alter the character of the traditionally scaled streets that Bostonians associate with the retail core. Any building elements taller than 100-125 feet should be set back from Washington, Summer, and Chauncy Streets in accordance with the setback requirements set forth in Section 19-4 of proposed Article 38 for PDA-II; however, even greater setbacks of 50-60 feet are encouraged so that taller elements appear to be a block away from these streets.

h. Attempts to create interior retail malls in competition with street-oriented retail activity have been unsuccessful in downtown Boston. In contrast to suburban malls where the individual identity of each shop overwhelms a comprehensive and integrated design image, any interior retail paths should emulate the easy flow of space and activity of the interiors of the Filene's and Jordan Marsh Department Stores and the main axis of Quincy Market, and not detract from Washington Street as downtown's main shopping street.

i. Building materials and design details are an important part of integrating new development with the fabric of the district. The architecture of the project should enhance the district with carefully designed ground floor and entry spaces, rooftops, vertical articulation of facades, window treatment, acknowledgment of neighboring cornice heights, and rich masonry detailing. Architecture, signage, and streetscaping should be consistent with guidelines being prepared for Downtown Crossing and the Cultural District.

j. The Proposed Project should contribute substantially to providing needed cultural facilities and public spaces of the type and location which will reinforce the district as a whole as identified in the Midtown Cultural District Plan and its supplements.

k. The type and location of day care facilities, locally-owned businesses, and neighborhood-oriented shops must be carefully planned. At least 4000 square feet of daycare space must be located on-site.

2. Urban Design Submission Materials

In order to determine that the Proposed Project is (a) architecturally compatible with surrounding structures; (b) exhibits an architectural concept that enhances the urban design features of the subdistrict in which it is located; (c) augments the quality of the pedestrian environment; and (d) is consistent with established design guidelines that exist for the area, the following schematic design items must be submitted:

a. Written description of program elements and space allocation for each element

b. Plan for the surrounding area and district and sections at an appropriate scale (1" = 50' or larger) showing relationships of the Proposed Project to the surrounding area's and district's:

- o Massing
- o Building height
- o Scaling elements
- o Public spaces
- o Pedestrian and vehicular circulation

c. Black and white 8"x10" photographs of the site and neighbor-hood

d. Sketches and diagrams to clarify design issues and massing options

e. Eye-level perspective(s) (reproducible line drawings) showing the proposal in the context of the surrounding area

f. Aerial views of the project

g. Site sections at 1" = 20' or larger showing relationships to adjacent buildings and spaces

h. Site plan at an appropriate scale (1" = 20' or larger) showing:

- o General relationships of proposed and existing adjacent buildings and open space
- o Open spaces defined by buildings on adjacent parcels and across streets

- o General location of pedestrianways, driveways, parking, service areas, streets, and major landscape features

- o Pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas

- o Survey information, such as existing elevations, bench-marks, and utilities

- o Phasing possibilities

- o Construction limits

i. Massing model at 1" = 40' for use in the BRA's downtown base model and a study model at 1" = 16' showing facade design

j. Drawings at an appropriate scale (1" = 8'or larger) describing architectural massing, facade design and proposed materials including:

- o Site improvement plans

- o Elevations in the context of the surrounding area

- o Sections showing organization of functions and spaces

- o Preliminary floor plans showing ground floor, typical upper floor(s), and roof

k. Proposed schedule for submittal of design development materials

Submission materials for Design Development and Contract Documents submissions can be found in Appendix 3.

V. HISTORIC RESOURCES COMPONENT

In accordance with Section 38-16 Planned Development Areas: General Design & Environmental Impact Standards; Landmarks and Historic Buildings, the Proposed Project must be generally designed and arranged in such a way as to limit the reduction of light and air surrounding Landmarks and Historic Buildings listed on the Massachusetts Register of Historic Places, and to minimize the shadow impact on their facades.

An historic resources analysis must be performed for both options. However, where project impacts would be identical,

only one submission need be made. The analysis must assess the impacts of height, scale, massing, and any relevant environmental impacts on historic districts and buildings. These impacts include:

(a) the isolation or alteration of a building identified in paragraph 2 of this component, or a building in a district identified in paragraph 1 of this component, from its surrounding environment; or

(b) the introduction of visual, audible or atmospheric elements that are out of character with the districts and buildings identified in paragraphs 1 and 2 of this component.

1. Effects of the Proposed Project on National or Massachusetts Register or Register-eligible sites or districts and other architecturally and historically significant areas including:

- o the Washington Street Theatre District
- o the West Street District
- o the Pre-fire Commercial District (also known as the Ladder Blocks District)
- o the Commercial Palace District
- o the Temple Place District
- o the Essex/Textile District

2. Impact of the Proposed Project on the following buildings rated I, II, or III by the Boston Landmarks Commission in proximity to the site.

100-106 Bedford Street	Proctor Building
65-71 Franklin Street	
77-83 Franklin Street	Columbia Nat'l Life Ins. Bldg.
85-87 Franklin Street	
40-46 Summer Street	Long's Building
83-87 Summer Street	
89-91, 93-95 Summer St.	
32 Temple Place	Provident Building
29-35 Temple Place	
37-43 Temple Place	
48-50 Temple Place	
136 Tremont	St. Paul's Cathedral
140 Tremont Street	R.H. Stearns Building
150 Tremont Street	Lawrence/O. Ditson Bldg.
174-175 Tremont Street	Evans House
178-179 Tremont Street	Oliver Ditson Building
384-426 Washington St.	Filene's
431-439 Washington St.	Gilchrist Building
443-447 Washington St.	Winter Street Bldg.

485-499 Washington St.	Blake Building
511-513 Washington St.	
523-527 Washington St.	Modern Theatre
543-547 Washington St.	Adams/Bijou Theatre
549-563 Washington St.	Paramount Theatre
590-622 Washington St.	Washington/Essex Bldg.
605-611 Washington St.	H. Miller Piano Fact. Bldg.
13-15 West Street	
20-42 Winter Street	Stowell's

3. The potential for the existence of any archaeological resources at the project site must be reported in the DPIR. The archaeological investigation must be undertaken in accordance with the requirements of the City Archaeologist.

VI. INFRASTRUCTURE SYSTEMS COMPONENT

The Infrastructure Systems Component of the DPIR must address anticipated volume requirements and generation for water, sewage, storm drainage, electricity/energy, telephone, gas, steam, cable/computer or other special systems. It must include an evaluation of the Proposed Project's impact on the capacity and adequacy of these systems, and the need reasonably attributable to the Proposed Project for additional systems facilities.

If any storm drainage is handled by a combined sewage line, then any circumstances which might result in backflow or capacity problems in such combined sewage lines must be described and mitigated. For example, peak sewage generation during a high drainage runoff situation, such as a hurricane or severe thunderstorm, must be studied.

Measures to conserve resources including any provisions for recycling, energy conservation (including the utilization of solar energy control systems), and water conservation must be identified.

Any system upgrading or connection which (1) requires a significant public or utility investment, (2) creates a significant disruption in vehicular or pedestrian circulation, or (3) affects any public or neighborhood park or streetscape improvement, comprises an impact which must be mitigated. The Applicant must demonstrate anticipated impacts in this regard, including mitigation measures, and must include in the analysis all proposed projects in the Midtown Cultural District for which a PNF has been submitted as of the date of this Scoping Determination.

Because Avenue de Lafayette is proposed to be built upon, special attention must be paid to relocation of all

utilities currently in that street, or special provisions for protection and access to allow utilities to run through the project site, and a description of the project impacts on site storm drainage and water quality is required. Any interruptions in service or new risks associated with utility lines which run through the site area must be described.

The Proposed Project must address potential impacts on and connections to existing and proposed Orange and Green line MBTA facilities.

The location of transformer and other vaults required for electrical distribution must be chosen to minimize disruption to pedestrian paths and improvements both when operating normally and when being serviced.
Thorough consultation with the planners and engineers of the utilities is required, and must be referenced in the DPIR.
A presentation of the Proposed Project, with special focus on infrastructure issues, before the Transportation Liaison Committee is required.

VII. AGREEMENTS

The following must be provided in form and content satisfactory to the appropriate signatory public agencies before the Proposed Project can receive final approval. They are not required for the DPIR.

1. If applicable, Cooperation Agreement, pursuant to Section 31-14 of the Code, to provide for monitoring of continued compliance with the Final Project Impact Report, including, but not limited to, a Transportation Access Plan Agreement and Construction Management Plan Agreement.

2. Development Impact Project Agreement pursuant to Articles 26A and 26B of the Code

3. Any applicable agreements relating to Chapter 121A, Urban Renewal, air rights, or ground leases

4. Boston Residents Construction Employment Plan, pursuant to Chapter 12 of the Ordinances of 1986 of the City of Boston, as amended by Chapter 17 of said Ordinances, and Executive Order Extending Boston Residents Job Policy, signed by the Mayor on July 12, 1985

5. If applicable, any amendments to existing 121A Agreements or Land Disposition Agreements

APPENDICES

Appendix 1

REQUIRED FINANCIAL INFORMATION

REQUIRED FINANCIAL INFORMATION -- BOSTON CROSSING

DEVELOPMENT PROFORMA includes all the information normally found in a development proforma, by phase. This includes, but is not limited to:

Land acquisition costs, per land square foot and total, by parcel. Include distinctions between attributed value and actual out-of-pocket costs, if any. Also include any imputed or actual carrying costs.

Attribution of acquisition expense over project components. (per FAR square foot residential, office, parking, etc.)

All hard costs on a per-unit and total basis, by phase. (disaggregated into base building, tenant improvement work, rehabilitiation work, residential finishes, garage cost, site work, furniture, fixtures and equipment, etc.)

All soft costs on a per-unit and total basis, by phase. (disaggregated into individual line items such as architectural, engineering, legal, accounting and developer's fees and any other professional fees, insurance, permits, real estate tax during construction, etc.)

All contingencies on a per-unit and total basis, by phase (specify whether contingency is on hard cost, soft cost, or total cost).

All assumptions regarding financing terms on acquisition, pre-development, and construction loans, by phase (including financing fees, interest rates, terms, drawdown assumptions, terms, participations, amortization).

Calculation of housing and jobs linkage obligation in accordance with Articles 26A and B, and anticipated payment method (over term of obligation or on a net present value basis).

Any other project-related expenses not within any of the above categories.

Calculation of total development cost by component, including total and per unit breakdown (e.g. per square foot office, residential, retail, etc., per parking space, etc.)

Sources of debt and equity for total project costs.

Appropriate return measures (return on equity, return on total development cost, internal rate of return; specify method of calculation and hurdle rates).

10-YEAR OPERATING PROFORMA includes all the information normally found in an operating proforma, on a yearly basis. This includes, but is not limited to:

Tabulation of gross and net (leasable) square feet for all commercial space.

Schedule of all rents whether base or percentage rents on a per square foot and total basis (including anticipated garage rates and occupancy).

Anticipated operating expenses and real estate taxes on per square foot and total basis, and clear explanation of division of expenses between owner and tenant (includes all commercial space, hotel, and garage)

All other expense and vacancy assumptions set forth to calculate cash available for debt service.

Anticipated leasing patterns (5-yr, 10-yr, etc.), lease-up rates and calculation of operating deficits if any.

Tenant inducements including free rent, tenant improvement allowances, etc.

Calculation of debt service, before tax cash flow, debt coverage ratios.

Appendix 2

PEDESTRIAN SAFETY/COMFORT WIND STANDARDS

PEDESTRIAN SAFETY/COMFORT WIND STANDARDS

Activity Area	Effective Gust Velocity	Permitted Occurrence Frequency
Limit for All Pedestrian Areas	13.8 m/sec (31 mph)	1.0%
Major Walkways Especially Principal Egress Paths for High-Rise Buildings	13.8 m/sec (31 mph)	1.0%
Other Pedestrian Walkways Including Street and Arcade Shopping Areas	11.2 m/sec (25 mph)	5.0%
Open Plazas & Park Areas Walking, Strolling Activities	6.3 m/sec (14.1 mph)	15.0%
Open Plaza & Park Areas Area, Open-Air Restaurants	4.0 m/sec (9 mph)	20.0%

For the purposes of the above standards, "effective gust velocity" is defined as meaning hourly wind speeds + 1.5 root-mean-square of the fluctuating velocity component measured at the same locations over the same time interval.

Appendix 3

SUBMISSION REQUIREMENTS FOR DESIGN DEVELOPMENT
AND CONTRACT DOCUMENTS SUBMISSIONS

Phase II Submission: Design Development

1. Revised written description of project

2. Revised site sections

3. Revised site plan showing:

   a. Relationship of the proposed building and open space to existing adjacent buildings, open spaces, streets, and buildings and open spaces across streets

   b. Proposed site improvements and amenities including paving, landscaping, lighting and street furniture

   c. Building and site dimensions, including setbacks and other dimensions subject to zoning requirements

   d. Any site improvements or areas proposed to be developed by some other party (including identification of responsible party)

   e. Proposed site grading, including typical existing and proposed grades at parcel lines

4. Dimensioned drawings at an appropriate scale (e.g., 1" = 8') developed from approved schematic design drawings which reflect the impact of proposed structural and mechanical systems on the appearance of exterior facades, interior public spaces, and roofscape including:

   a. Building plans

   b. Preliminary structural drawings

   c. Preliminary mechanical drawings

   d. Sections

   e. Elevations showing the project in the context of the surrounding area as required by the Authority to illustrate relationships or character, scale and materials

5. Large-scale (e.g., 3/4" = 1'-0") typical exterior wall sections, elevations and details sufficient to describe specific architectural components and methods of their assembly

6. Outline specifications of all materials for site improvements, exterior facades, roofscape, and interior public spaces

7. Eye-level perspective drawings showing the project in the context of the surrounding area

8. Samples of all proposed exterior materials

9. Complete photo documentation 935 mm color slides) of above components including major changes form initial submission to project approval

Phase III Submission: Contract Document

1. Final written description of project

2. A site plan showing all site development and landscape details for lighting, paving, planting, street furniture, utilities, grading, drainage, access, service, and parking
3. Complete architectural and engineering drawings and specifications

4. Full-size assemblies (at the project site) of exterior materials and details of construction

5. Eye-level perspective drawings or presentation model that accurately represents the project, and a rendered site plan showing all adjacent existing and proposed structures, streets and site improvements

6. Site and building plan at 1" = 100' for Authority's use in updating its 1" = 100' photogrammetric map sheets

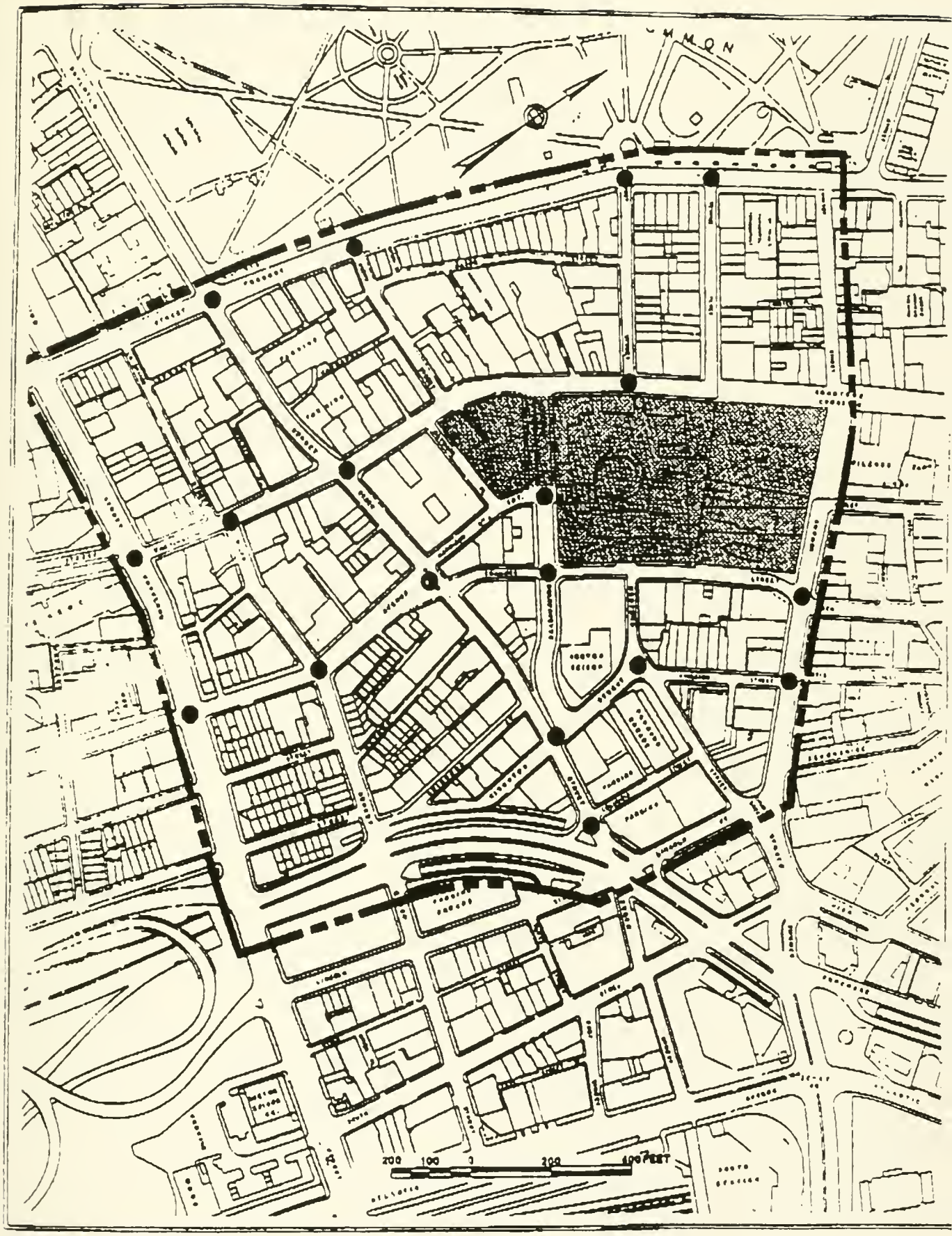
Phase IV Submission: Construction Inspection

1. All contract addenda, proposed change orders, and other modifications and revisions of approved contract documents which affect site improvements, exterior facades, roofscape, and interior public spaces shall be submitted to the Authority prior to taking effect.

2. Shop drawings of architectural components which differ from or were not fully described in contract documents

Appendix 4

TRANSPORTATION IMPACT AREA AND INTERSECTIONS TO BE ANALYZED



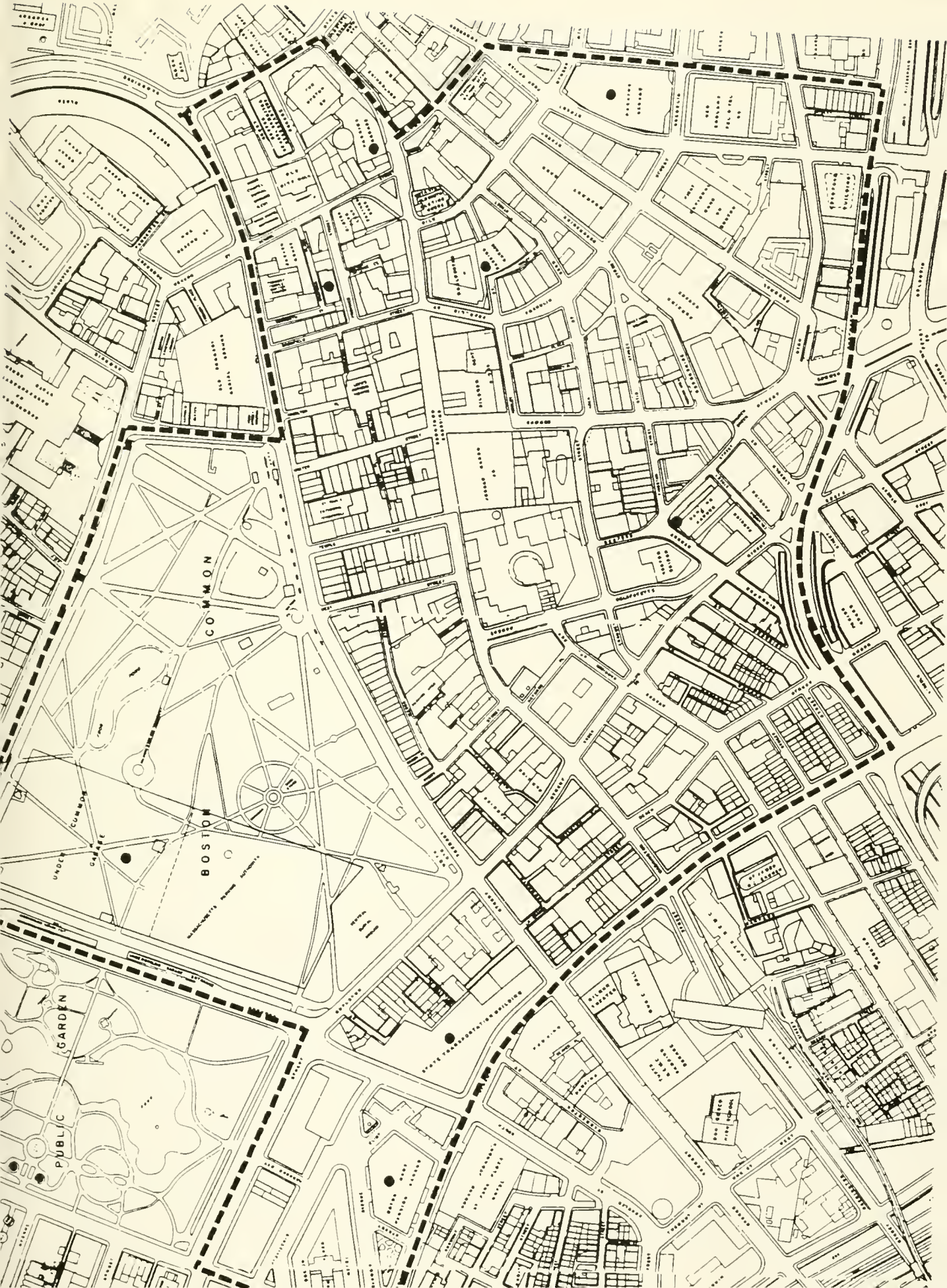
LEGEND:

Transportation Impact Area

Project Location

Appendix 5

PARKING STUDY AREA


COMMON
BOSTON
PUBLIC
GARDEN

Appendix 6

BOSTON TRANSPORTATION DEPARTMENT

CONSTRUCTION MANAGEMENT PROGRAM

CONSTRUCTION MANAGEMENT PROGRAM

December 1986

City of Boston

BOSTON TRANSPORTATION DEPARTMENT
in cooperation with
INSPECTIONAL SERVICES DEPARTMENT
POLICE DEPARTMENT, and
PUBLIC WORKS DEPARTMENT.

Raymond L. Flynn
Mayor

Richard A. Dimino
Commissioner

CITY OF BOSTON
CONSTRUCTION MANAGEMENT PROGRAM

INTRODUCTION

The City of Boston is the financial, commercial and cultural center of New England and possesses one of the healthiest economies in the country. One indication of this is the significant number of new development projects — both office and housing — occurring on Boston's downtown and neighborhood streets. In the past three years alone, more than six million square feet of new office space and 3,400 housing units have been developed in the City. Another five million square feet of office space is planned between now and 1989.

Boston's economic growth has and will continue to have a very positive effect upon employment, housing, public and private investment, and tourism. This growth, however, is also having an effect upon the quality of life for its residents and the more than one million people who travel into or through Boston each day.

Increased traffic volumes on roadways already utilized beyond their capacity, coupled with congestion caused by construction-related activities, has resulted in a situation where Boston's roadway system is unable to sustain the economic growth which the City is experiencing.

The Transportation Department has recognized that the City must take an active and aggressive role in managing and directing the activities that occur on Boston's streets. To that end, the Department, in cooperation with the Inspectional Services Department, the Public Works Department and the Boston Police Department, has established the CONSTRUCTION MANAGEMENT PROGRAM. This program establishes clear policies, guidelines and procedures to govern all construction-related use of the City's public roadways. The intent is to control and minimize the negative traffic impacts and public safety hazards resulting from construction.

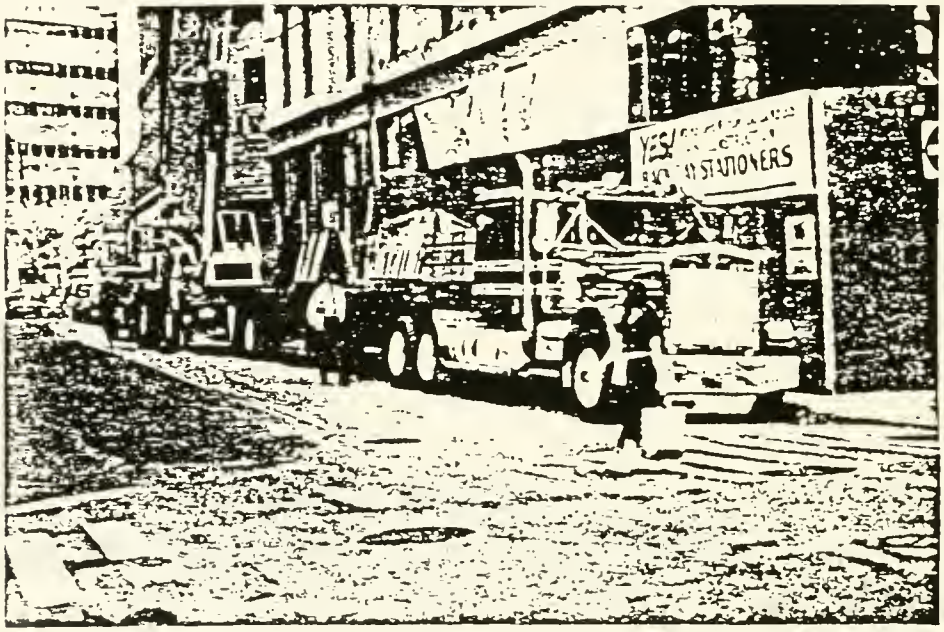
CONSTRUCTION MANAGEMENT

Boston's unique charm and vitality has attracted an extraordinary level of interest in its redevelopment. The visible products of this redevelopment include new downtown office buildings, restored landmarks, road reconstruction, new housing and the rebirth of the waterfront.

The significant increase in the number of development projects is illustrated by the fact that more than 3,000 permits have been issued since July for projects within the 2.3-square-mile area of Downtown Boston. That means that in addition to the normal use generated by residents, commuters, businesses and tourists, Boston's streets are further taxed by construction activities such as truck deliveries, cranes, lane closures, dumpsters and construction workers commuting to and from each site.

The Department has reexamined the process by which Boston's streets and sidewalks are used by developers and contractors and determined that a creative and highly coordinated approach to managing con-

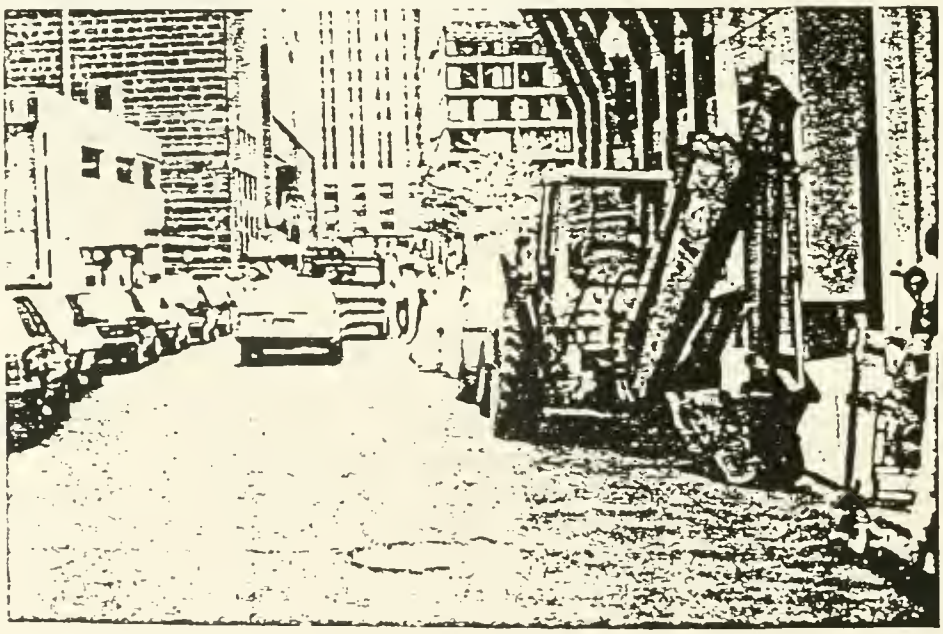
struction activities is essential. Through the aggressive implementation of the Construction Manageme Program, the City can sustain the current economic growth while ensuring that its streets are not strangl by it.



Prior to implementation of the program, developers routinely parked construction vehicles along the roadway, resulting in unnecessary lane closure and a hazardous situation for pedestrians.

PURPOSE OF THE PROGRAM

The magnitude and scope of current development necessitates a comprehensive plan to manage both the day-to-day impacts created by construction and the long-term impacts resulting from the addition of a new office, apartment or commercial building. After the cranes and jersey barriers are removed, the completed building will house employees or residents and will attract many others whose need to travel to and from the site will impact the surrounding transportation network.

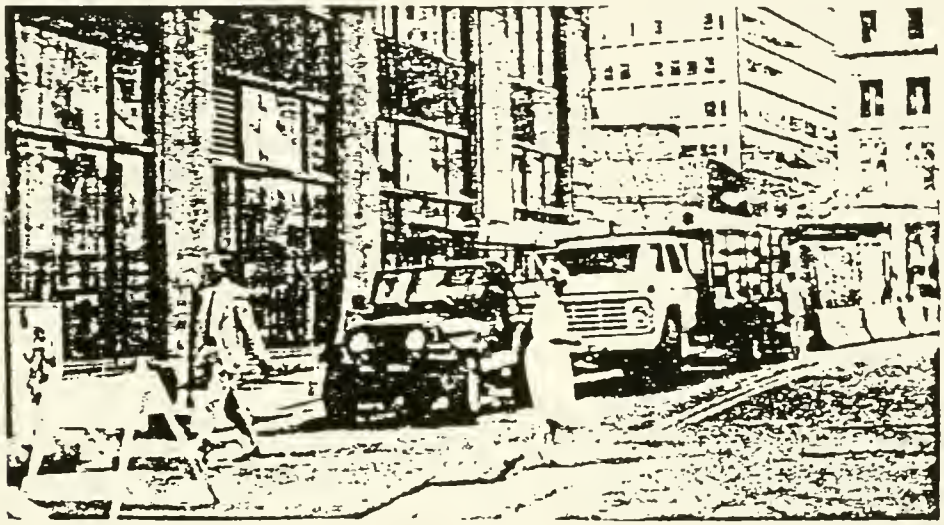


Federal Street is narrowed to one lane due to construction equipment and cars queuing to enter the Winthrop Square parking garage.

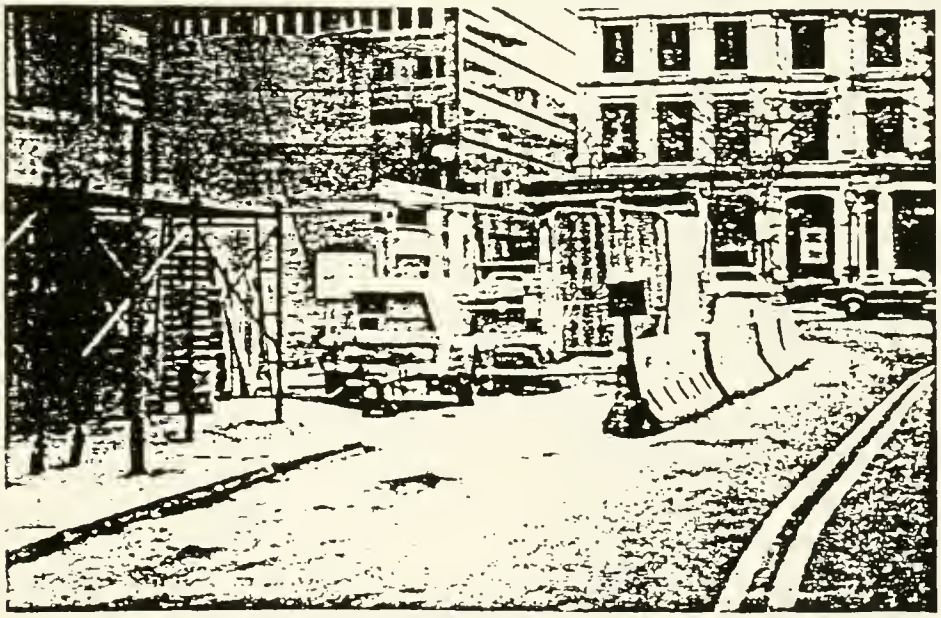
In the decade from 1968 to 1977, 45,000 permits were issued for construction and reconstruction projects. In the last six years alone more than 53,000 permits for buildings and major reconstruction projects have been issued. Virtually every construction project entails some occupation of the public way — for a dumpster, a lane closure or the delivery of materials — thereby contributing to traffic congestion and the reduction of parking resources. When a roadway is operating at capacity the loss of even a single lane causes traffic congestion.

In addition to the multitude of private construction projects, the City is also embarking upon a major reinvestment in its infrastructure. Last year the City introduced a plan to upgrade and restore municipal buildings, roadways, bridges and parks. In the next few years, Boston's Public Works Department will be repaving or reconstructing about 15 miles of city streets. Eight bridges are under design, three of which are slated to be reconstructed or replaced. The Boston Water and Sewer Commission has embarked on an ambitious 15-year plan to clean, replace or reline 25 to 30 miles of water mains, storm drains, and sewers, annu-

Before



After



Photos illustrate roadway usage before and after establishment of the Construction Management Program.

ally. While these projects will ultimately enhance our quality of life, they will also further disrupt the flow vehicle and pedestrian traffic throughout the City.

The Construction Management Program will address two primary needs. First, is the the need to cont the day-to-day activities at construction sites to minimize negative traffic and public safety impacts. Secor is the need to coordinate and manage future construction projects occurring in and around a given area in t City to ensure that the level of activity does not exceed the area's ability to sustain the growth.

PRIOR PRACTICES

An analysis of the street occupancy permitting system by the Transportation Department illustrat that the procedures and controls of past decades were inadequate to meet the challenges confronting Bost today.

Under the previous system, a contractor would seek a street occupancy permit from the Transportati Department after all negotiations, agreements, design work, contracts and building permits had alrea been finalized internally, as well as with the BRA and the Inspectional Services Department.

That structure resulted in a situation where traffic impacts were not identified until very late in t development process. By the time a street occupancy permit was sought the developer and contractor h already invested considerable time and money into the design of their project. By then it was often too late incorporate traffic mitigation measures into the development plans.

For example, several years ago, developers of a major downtown hotel, who had already complet their design and site work, applied for a street occupancy permit. Upon analyzing the project proposal, t Transportation Department determined that a different location for the garage entrance would reduce t negative impact on traffic in the area. This was discovered so far into the process, however, that obtaini the desired changes in design was impossible.

NEW PROCEDURES

Under the Construction Management Program, not only are the traffic impacts identified early in th process, the proposals are evaluated in the context of other projects in the vicinity. Strict guidelines are place on the times and types of activities which are allowed to occur. These new procedures have already resulte in TRAFFIC MAINTENANCE PLANS that have allowed major developments to proceed in problemati areas with minimal disruption to the surrounding transportation network.

For example, the Beacon Companies, as developer and Turner Construction Company, as prime cor tractor, are erecting a 31-story commercial structure at 75 State Street. Following past practice, they ap proached the Inspectional Services Department for review and approval of necessary demolitior foundation and building permits. Instead they were brought into a broader dialogue that included th Transportation Department. Their proposed construction methods would have necessitated the occupanc of State Street reducing it to 18 feet (two narrow travel lanes, eliminating all loading or drop off capacity fc businesses along the north side of the street), and the closing of Kilby Street — both for a minimum c eighteen months (See figure I). Early review of their proposals enabled the Construction Management sta to work closely with Beacon Companies and Turner Construction to make appropriate design changes so tha the street occupancy could be minimized during each phase of construction.

As illustrated in Figure II, the resulting plan maintains a minimum of 26 feet of State Street for trave and loading functions for the first five months and 28 to 30 feet for the remainder of the project. One lane c Kilby Street will remain open at all times. In addition, the plan also incorporates a wide variety of othe mitigation measures including specified routes and schedules for trucks traveling to and from the site and th designation, by the prime contractor, of a traffic supervisor. This Traffic Maintenance Plan, already i effect, has enabled this major project to proceed with minimal disruption to the surrounding area.

MANAGEMENT

A Construction Management Team, comprised of representatives from the Boston Police Departmen Inspectional Services Department and the Public Works Department, has been established within the Tran portation Department. In addition, the unit will include a police sergeant, a chief inspector, an inspecto

and an administrative secretary responsible for the day-to-day implementation of the program. This management team will ensure that the appropriate city agencies are involved in the establishment of guidelines, the issuance of permits and the monitoring of compliance for the duration of all construction projects on Boston's streets.

The four departments, Transportation, Inspectional Services, Public Works and the Police Department, each have the following primary responsibilities.

The **Transportation Department** is charged with:

1. Evaluating the potential traffic and parking impacts of any ongoing or proposed construction project, including the demolition of any existing structures;
2. Developing a plan to hold these impacts to an absolute minimum;
3. Monitoring and ensuring compliance with that plan.

The **Inspectional Services Department** is charged with:

1. Evaluating the design and construction methodology of a proposed project for code compliance;
2. Issuing building permits after all construction and transportation criteria have been satisfied.

The **Public Works Department** is charged with:

1. Evaluating the potential infrastructure impacts of any ongoing or proposed construction project;
2. Developing plans to minimize negative impacts as well as plans to restore the impacted area;
3. Issuing street occupancy permits after all building, transportation, and infrastructure concerns have been satisfied.

The **Police Department** is charged with:

1. Maintaining public safety and the free flow of vehicular and pedestrian traffic through the impacted area;
2. Ensuring the contractor's compliance with the conditions of street occupancy permits as determined by the Public Works and Transportation Departments.

PROGRAM PROCEDURES

The Construction Management staff will review all applications for street occupancy permits. The following procedures have been established to ensure effective control and management of construction activities.

I. FOR ALL ACTIVITIES REQUIRING A STREET OCCUPANCY PERMIT THE FOLLOWING PROCEDURES ARE NECESSARY:

A. Initial application is made at the Transportation Department, Traffic Management Division, Room 721, City Hall. Upon completion of a **TRAFFIC MAINTENANCE APPROVAL FORM**, application is made to the Public Works Department for a Street Occupancy Permit — both must be displayed and available at all times at the worksite.

B. Application must be made sufficiently in advance of the planned sidewalk or street occupancy to enable a thorough review by each department. For small-scale projects which will create minimal impact on vehicular or pedestrian traffic, a permit may be issued within a day. For major building projects the review period may take several weeks.

C. The need for occupancy of any portion of the public way must be documented along with all justification as to why the project cannot be completed within its boundaries.

D. The number of feet and the duration of sidewalk or street occupancy must be kept to an absolute minimum for each phase of the project. The duration of each phase of occupancy must be fully documented.

E. A description of how and where all construction-related vehicles, equipment, and materials (including those belonging to employees, subcontractors, etc.) will be parked or stored during all phases of the project. Parking or storage on the public way will be consistently and rigorously prohibited unless the applicant has demonstrated, and the City concurs, that such occupancy is absolutely necessary and can be accommodated without undue disruption to the public.

II. THE FOLLOWING REQUIREMENTS APPLY TO PROJECTS WITHIN DOWNTOWN BOSTON* WHICH WILL OCCUPY THE PUBLIC WAY FOR MORE THAN A TWENTY-FOUR-HOUR PERIOD — Including sidewalks within Downtown Boston or other streets, as determined by the Transportation Department:

*Downtown Boston is defined as the area north of Massachusetts Avenue as bounded by the Charles River, Boston Harbor, Fort Point Channel, and the S.E. Expressway.

Figure I

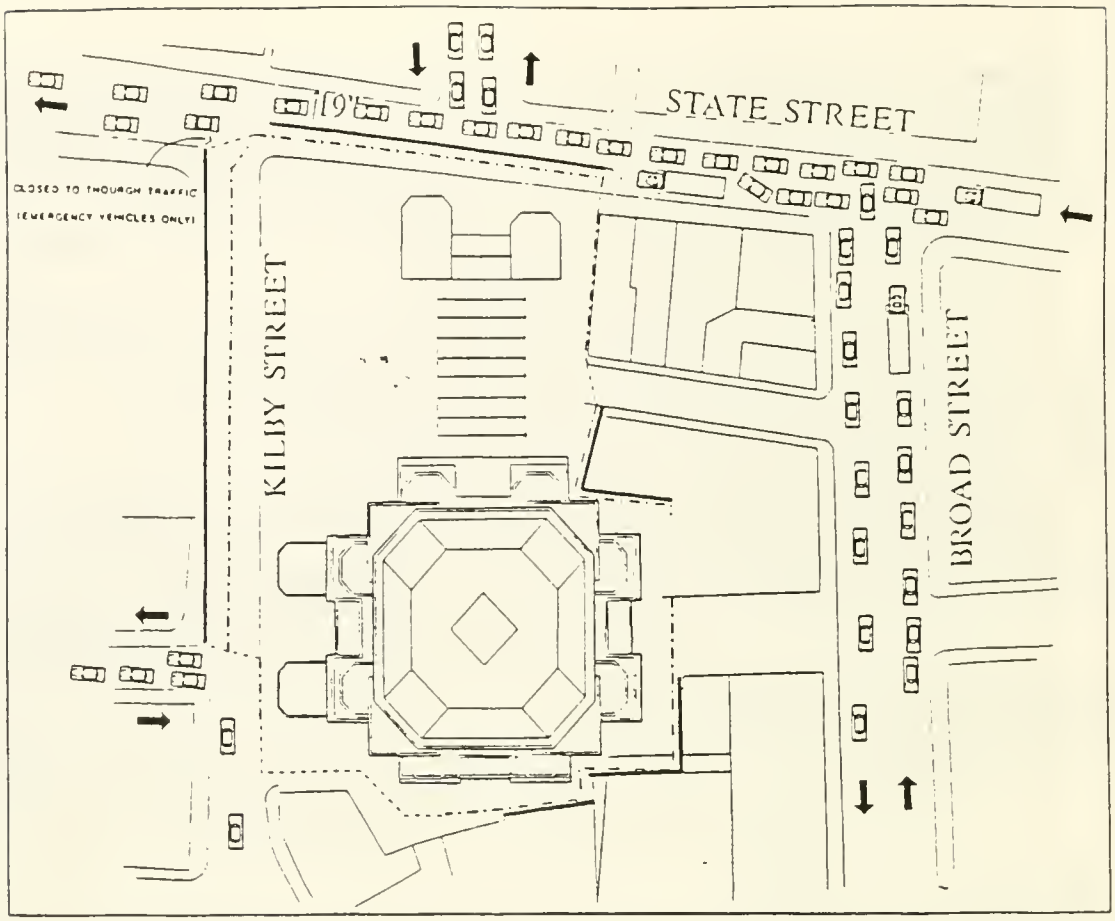
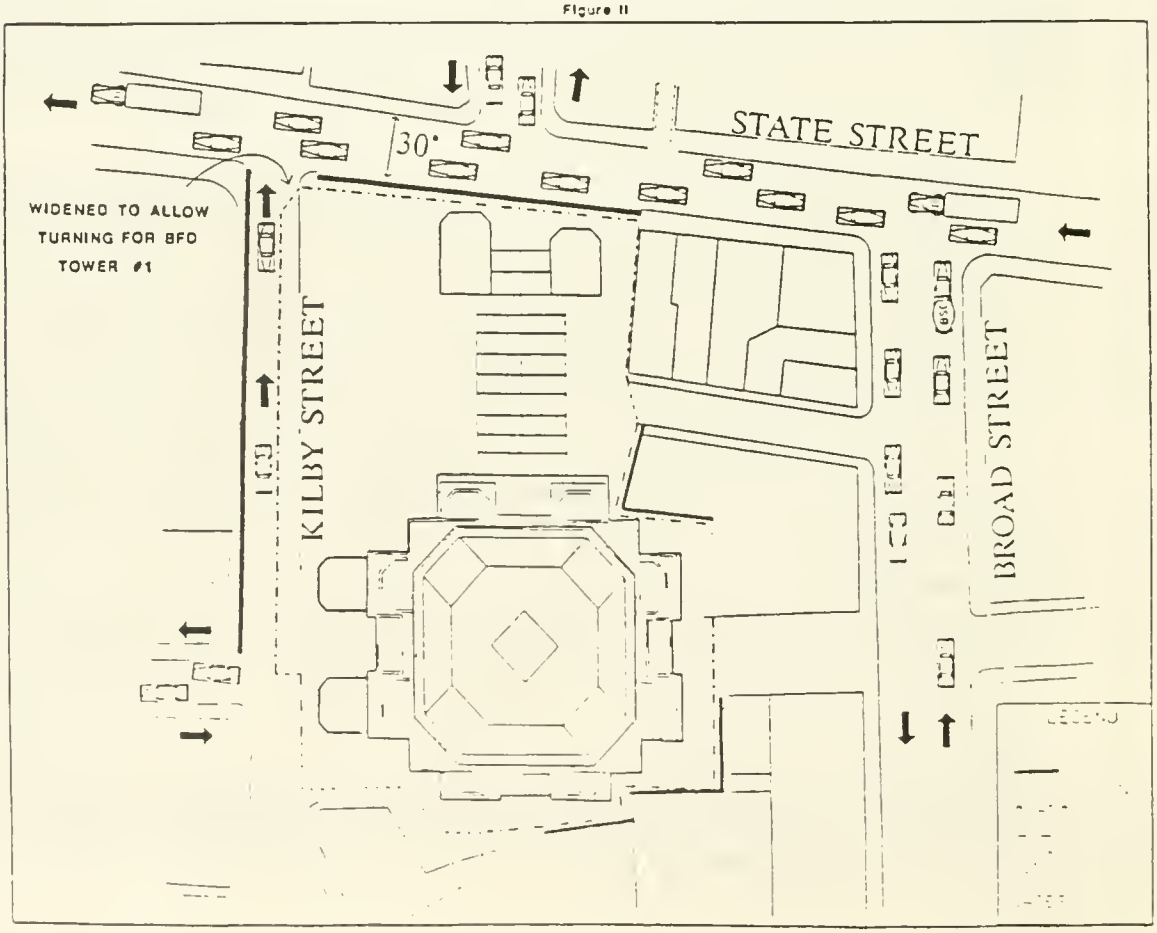


Figure II



A. Applicants for all building permits must first work with the Transportation Department to complete a TRAFFIC MAINTENANCE APPROVAL FORM. No permits will be issued until all building and transportation requirements have been met.

B. Applicants must provide a scaled drawing (to the scale of 1" = 20') for each phase of the project, indicating roadway or sidewalk constraints. Depending upon the location, size and duration of occupancy, the drawing should also indicate any temporary signing, roadway marking, location of anticipated police details or any other actions to be taken by the contractor to reduce the adverse impacts of the project.

III. FOR ALL MAJOR PROJECTS (greater than 30,000 square feet or in excess of 25 units) that require street occupancy*, A COMPLETE TRAFFIC MAINTENANCE PLAN MUST BE COMPLETED AND APPROVED BEFORE ANY PERMITS WILL BE ISSUED. Depending upon the location, size and duration of street occupancy, one or more pre-construction meetings with Construction Management staff may be necessary.

The Traffic Maintenance Plan requires written descriptions and documentation relative to the previously listed criteria, as well as the following items:

1. A scaled drawing (to the scale of 1" = 100') showing a radius of at least 500 feet from the construction site including all roadways, street directions, other existing construction sites within this perimeter, and an indication of any and all impacts that may occur as a result of multiple projects within the impacted area.
2. Relative to the method of construction, applicants must indicate that all methods have been explored and that the proposed method has been determined to be the most feasible with the least negative impact on traffic and public safety (e.g. utilization of a climbing crane rather than a truck crane). Cost cannot be the sole determining factor in responding to these criteria. It is recommended that the Construction Management staff be contacted with initial proposals before extensive design work has progressed.
3. A description and schedule of delivery procedures and specific truck routes for access to and from the project site. Consideration must be given to time periods that are not in conflict with peak traffic periods (e.g., between 7:00 p.m. and 7:00 a.m.).
4. A proposal for a street cleaning program for those streets affected by construction activities and accompanying construction-related vehicles.
5. A summary of the impacts of the street occupancy on adjacent businesses and residents accompanied by responses from establishment owners.

IV. MONITORING AND COMPLIANCE COMPONENTS:

- Coordination of the Construction Management Program will be provided by the Transportation Department. A sergeant from the Boston Police Department has been assigned to the department to ensure compliance with all conditions of each street occupancy permit.
- Paid police details are required by the city to ensure public safety, the free flow of vehicular and pedestrian traffic, and compliance with all city-mandated conditions of street occupancy. All Boston Police officers will receive general instructions regarding their responsibilities while on a paid detail at a construction site. This information (provided in **Attachment C** of this package) will also be incorporated in the police academy's training program.
- A copy of the Transportation Department's TRAFFIC MAINTENANCE APPROVAL FORM will be provided to each and every detail officer by the holder of that permit. (A copy of the TRAFFIC MAINTENANCE APPROVAL FORM is included in **Attachment D** of this package.)
- Any project found to be in non-compliance with its permit conditions will be subject to immediate corrective action which may include the revocation of one or more of the activities allowed under the terms of the permit.

The different criteria addressed in I — III above constitute the starting point for an application. The Construction Management staff may require additional information or actions based upon specific characteristics of each project.

*The Department of Inspectional Services (ISD) will issue a short form permit for those projects that do not require street occupancy.

GENERAL CRITERIA FOR STREET OCCUPANCY APPLICATIONS

This information applies to all individuals, developers, and general contractors performing any c struction that requires occupancy of a public way (including sidewalks) within Downtown Boston (certain other streets or parts thereof as determined by the Transportation Department) for more tha twenty-four-hour period. Applicants for a Street Occupancy Permit must be prepared to provide very s cific plans relative to the following items:

1. Initial application for a TRAFFIC MAINTENANCE APPROVAL FORM is made at:
   The Boston Transportation Department,
   Traffic Management Division, Room 721
   City Hall, Boston MA 02201
   Application is then made to the Public Works Department for a Street Occupancy Permit. No perr will be issued until all building and transportation requirements have been met. All permits must displayed and available at all times at the worksite.
2. Application must be made sufficiently in advance of the planned sidewalk or street occupancy to ena a thorough review by each department. For small-scale projects which will create minimal impact vehicular or pedestrian traffic, a permit may be issued within a day. For major building projects review period may take several weeks.
3. The need for occupancy of any portion of the public way must be documented along with all justifi tions as to why the project cannot be completed within its boundaries.
4. The number of feet and the duration of the sidewalk or street to be occupied must be kept to an absol minimum for each phase of the project. The duration of each phase of occupancy must be fully do mented.
5. A description of how and where all construction-related vehicles, equipment, and materials (includ those belonging to employees, subcontractors, etc.) will be parked or stored during all phases of project. Parking or storage on the public way will be consistently and rigorously prohibited unless applicant has demonstrated, and the city concurs, that such occupancy is absolutely necessary and be accommodated without undue disruption to the public.
6. Applicants must provide a scaled drawing (to the scale of 1" = 20') for each phase of the proje indicating roadway or sidewalk constraints. Depending upon the location, size and duration of oc pancy, the drawing should also indicate any temporary signing, roadway marking, location of ant pated police details or any other actions to be taken by the contractor to reduce the adverse impact the project.

TRAFFIC MAINTENANCE PLAN CRITERIA

FOR ALL MAJOR PROJECTS (greater than 30,000 square feet or in excess of 25 units) that entail str occupancy*, A COMPLETE TRAFFIC MAINTENANCE PLAN MUST BE COMPLETED AND A PROVED BEFORE ANY PERMITS WILL BE ISSUED. This plan will be used by the city to monitor t construction activities throughout the course of the project. This plan will become a part of the buildi permit. The required information and details for this submittal are outlined below. Any deviation fr required items must be fully documented.

A. General Information — Traffic Maintenance Plan shall include but not be limited to the following:
   1. A description of the project, its location and other pertinent background information.
   2. The name and title of person responsible for all matters pertaining to the terms of the permit. T general contractor shall be fully accountable for all contractors and subcontractors, including project-related utility companies.
   3. The name of the designated traffic coordinator — responsible for scheduling deliveries, spotti trucks and other construction-related vehicles and equipment within the site, eliminating queui on public streets, ensuring that streets are kept clean, etc.

*The Inspectional Services Department (ISD) will issue a short form permit for those projects that do not require street occupancy

4. Relative to the method of construction, applicants must indicate that all methods have been explored and that the proposed method has been determined to be the most feasible with the least negative impact on traffic and public safety (e.g., utilization of a climbing crane rather than a truck crane). Cost cannot be the sole determining factor in responding to this criteria. It is recommended that the Construction Management staff be contacted with initial proposals before extensive design work has progressed.

B. Site Plan — A detailed site plan or series of plans, shall include but not be limited to the following items:
1. A site plan drawing at a scale of 1" = 20' for each phase of the project, including any demolition of existing structure.
2. A list of all abutting streets.
3. Dimensions of all streets, sidewalks, alleys and easements abutting or affecting the site.
4. Exact location and dimensions of street occupancy required at any time during the life of the construction work, including duration of occupancy by work phase.
5. Location and description of signage for pedestrians, vehicle movements and prohibitions, and any other necessary signage. Said signage shall be installed in accordance with the locations and intervals determined by the Boston Transportation Department and shall be maintained by the general contractor for the duration of each phase of the construction project.
6. Location of cranes, hoists and other major construction equipment, and location of trucks during loading and unloading operations.
7. Location and schedule of utility cuts and connection work, and any other site work that requires use of the public way.

C. Area Plan — A large-scale plan (to the scale of 1" = 100') of the area in which the project is located that indicates the following:
1. Street system serving the vicinity of the project for a distance of 500 feet (minimum) in all directions.
2. Routes to be used by trucks to reach site.
3. Existing construction projects which may affect or be affected by traffic related to this project.
4. Location of remote staging area(s) related to this project and its subcontractors.

D. Special Conditions — Detailed documentation regarding special or unique items relating to construction activities which require use of the public way, including the following:
1. Police details — Describe location, time, assignments, and other proposed uses.
2. Snow removal — Describe steps to be taken to assure that clear dimensions will be maintained and any other special measures to be taken.
3. Street cleaning — Describe steps to be taken to provide street cleaning as necessary to maintain streets over which this project's construction vehicles travel, to the level of cleanliness as normally provided by the city.
4. Pedestrian — Describe measures to be taken to provide for the comfort and convenience of pedestrians adjacent to the site: if necessary to provide covered walkways, describe inside clear dimensions (desirable, 8'0" wide and 7'0" high), suitable lighting, and other special measures to encourage pedestrian use.
5. Delivery schedules — Describe truck delivery schedules or how the schedules will be handled, with breakdowns relating to structural steel, facing panels, concrete, excavation, etc. Special attention should be made to ensure that deliveries are not scheduled between the hours of 7 a.m. to 9:30 a.m. and 4 p.m. to 6 p.m. and that the preferred time frame for all deliveries is 7 p.m. to 7 a.m.
6. Public Safety — Fire lanes and appropriate signs shall be established through and around the site on a priority basis. Actual determination of actual limits necessary may be done through field trials at which both the Fire Department and Transportation Department will be present.
7. Employee Parking — Reasonable efforts shall be taken to eliminate the parking of vehicles of

the construction workers at the construction site, where site constraints dictate, and on th public street in the vicinity of the construction project. The general contractor shall consid arranging for off-site, remote parking areas with shuttle buses to the site, ride sharin M.B.T.A. pass subsidies, etc., and these efforts must be documented.

8. A summary of the impacts of the street occupancy on adjacent businesses and residents accom panied by responses from establishment owners.

E. Street Occupancy Approval — If approval is granted, the street occupancy shall be for construction related activities ONLY. No private vehicles will be permitted. No additional occupancy will be grante outside or in addition to the initial approvals.

RESPONSIBILITY OF POLICE DETAILS AT CONSTRUCTION SITE

The purpose of having a police detail at a construction site is to assist the general public, both pedestrian and motorist, past the construction area or through a congested intersection caused by the related construction activities. Any assistance given to the contractor, such as positioning equipment, should never occur at the expense or inconvenience of the general public and no actions, by the contractor, in violation of their street occupancy permit can be allowed. The following procedures and guidelines shall be followed:

1. The officer(s) should report to the contractor's superintendent and acquaint himself with the project's "Street Occupancy Permit Compliance Forms" which are supplied and approved by the Boston Transportation Department. These forms detail the following requirements with which the contractor must comply:
   a) The distance from the curb line at which the contractor must place all barriers and the specific width of roadway that must be maintained.
   b) Whether or not a pedestrian walkway of a specific width must be provided.
   c) Whether or not Tow Zone signs, with a specific legend as determined by the Transportation Department, are required.
   d) The contractor is prohibited from parking any vehicle outside the barriers and only vehicles being loaded or unloaded shall be parked within the barriers.
2. The officer(s) is responsible for the safe movement of pedestrians past the particular construction site or through congested areas caused by the construction activity.
3. The officer(s) is responsible for the safe and efficient movement of vehicular traffic as indicated on the project's Compliance Forms. The officer(s) must be aware that even brief stoppage of traffic to accommodate the contractor can cause gridlock at adjacent intersections. If a Compliance Form is not available, the officer must continue to maintain the normal flow of traffic.
4. The officer(s) is specifically responsible for the enforcement of all parking restrictions noted on the project's Compliance Forms as well as any other posted regulations within the immediate vicinity of the construction project.
5. The officer)s) shall report any unusual problems associated with the project to the Area Deputy Superintendent, i.e. the potential need to assign additional police at specific times, etc.
6. It is particularly important that the officer(s) rigorously enforce the rules and regulations relative to the contractor's vehicles. Also, officer(s) must conform to the same regulations with regard to the parking of their own vehicles.
7. The officer(s) shall not close any public roadway or sidewalk for construction-related activities without the written consent of the Transportation Department.
8. The officer(s) shall pay particular attention to the effects of construction on signalized intersections and the relationship between adjacent intersections.

FREQUENT VIOLATIONS OCCURRING IN THE VICINITY OF CONSTRUCTION SITES

1. Occupation of the street and/or sidewalk beyond designated area.
2. Use of occupied area for the parking of employees' vehicles.
3. Closure of roadways and/or sidewalks for the convenience of the construction project.
4. Vehicles accessing the construction project from the wrong direction.
5. Improper use of Tow Zone signs and bagging of parking meters without authorization by the Transportation Department.
6. Harassment, by construction workers, of the officer authorized to enforce regulations.

DEFINITIONS OF FREQUENTLY UTILIZED TRAFFIC REGULATIONS

Tow Zone No Parking — This regulation prohibits any vehicle from parking all day. The regulation does allow use by commercial vehicles — those vehicles with commercial plates with a name, address, and telephone number PERMANENTLY displayed on both sides of the vehicle — while actually loading or unloading.

Tow Zone No Stopping — This regulation prohibits ALL vehicles from stopping or parking for any reason.

TERMS THAT ARE IMPORTANT IN THE OPERATION OF SIGNALIZED INTERSECTIONS:

Cycle Length — The time period form the beginning of the green light to the end of the subsequent red light.

Approach Lanes — All travel lanes approaching a signalized intersection. To maximize the number of vehicles passing through each green cycle, these lanes should be kept clear of obstructions for the distance of at least eight car lengths before and after the intersection.

Traffic Flow Coordination — Signals along streets with multiple signalized intersections are generally coordinated to provide continuous traffic flow. Detail officers should make every effort to not override the timed signal.

Gridlock — No vehicle should be allowed to enter an intersection unless there is sufficient room for the vehicle to pass to the opposite side.

APPENDIX N

BRA PRELIMINARY ADEQUACY DETERMINATION

OSTON
EDEVELOPMENT
UTHORITY

ymond L. Flynn
yor

ephen Coyle
ector

e City Hall Square
ston, MA 02201
7) 722-4300

cc: LM
NH
CG
C Schl., HMM
orig → file

September 21, 1989

Mr. Lenard B. McQuarrie
Campeau Corporation
One Avenue de Lafayette
Boston, MA 02111

Dear Mr. McQuarrie:

Re: Boston Crossing

This letter is the Preliminary Adequacy Determination (the "Determination") of the Boston Redevelopment Authority (the "BRA") with respect to the Draft Project Impact Report (the "DPIR") for your proposed Boston Crossing project (the "Project"), which you submitted to the BRA on May 12, 1989.

The BRA is issuing this Determination pursuant to Section 31-5 of the Boston Zoning Code (the "Code").

PREAMBLE

The BRA is reviewing the Project pursuant to multiple sections of the Code. The Project is subject to BRA review and approval pursuant to Article 31 of the Code, Development Review Requirements, which sets out a comprehensive procedure for project review, and requires the BRA to review the design, transportation, environmental, and other impacts of proposed projects. Article 31 requires the submission of a satisfactory Final Project Impact Report ("FPIR") prior to the issuance of a building permit.

The Project as originally proposed by the Applicant and scoped by the BRA contained 3,365,000 GSF. The retail components consisted of approximately 1,425,000 GSF and the office component consisted

of a 729,000 GSF, 400-foot tower at the northern end of the site on the Jordan Marsh Store and a 720,500 GSF, 437-foot at the southern end of the site over Bloomingdales's.

During the review of the environmental impacts of this scheme as studied in the DPIR changes were made to the project to minimize its shadow impact on the Boston Common. Because the northern office component is on the eastern portion of the Jordan Marsh site and further away from Washington Street and the Boston Common, its height resulted in less shadow on Boston Common than the height of the southern office component which is closer to Washington Street. Therefore, three floors were shifted from the southern component and redistributed to the base and shaft of the northern office component. The floorplates of the southern tower were also reduced, resulting in a slimmer tower and thus reducing shadow impacts even further. As a result, the southern tower is now 406 feet in height and 609,408 GSF and the northern tower is 478 feet in height and 840,592 GSF. A single building within a Planned Development Area (PDA) of more than three acres within PDA-II may have a height substantially in accord with a maximum of 465 feet provided that certain environmental and design criteria are met.

On June 29, 1989, the BRA Board approved the Development and Development Impact Project Plan for the Project. Exceptions from Article 38 and Conditional Use permits were recommended to the Board of Appeal. However, approval was granted subject to the incorporation of mitigation measures in the final plans. Therefore, this Preliminary Adequacy Determination requests information necessary to determine such measures.

I. THE MIDTOWN CULTURAL DISTRICT PLAN AND ARTICLE 38 OF THE CODE

On January 12, 1989, the BRA adopted the Midtown Cultural District Plan (the "Plan") as the portion of the general plan for the city governing the Midtown Cultural District. On March 6, 1989, the Boston Zoning Commission amended the Code to incorporate Article 38. Article 38 of the Code establishes the zoning regulations which are the legal framework for the realization of the Plan. Pursuant to Article 38, the Proposed Project is located within the Midtown Cultural District.

The Midtown Cultural District Plan was developed to guide the reemergence of Midtown Boston as a center of commerce, culture, and city life. The program that emerged from the community-based planning process calls for the creation of a mixed-use downtown

planning process calls for the creation of a mixed-use downtown community which will link the Back Bay and Financial District office markets and reconnect downtown's residential neighborhoods with each other and with the Boston Common and Public Garden.

The primary purposes of the new zoning plan are:

- To direct the downtown economy in a way that promotes balanced growth for Boston, by preventing overdevelopment of the Financial District and Back Bay commercial areas;

- To revitalize Midtown as the region's center for the performing arts, by creating new cultural facilities and rehabilitating existing theaters;

- To protect and provide for expansion of the thriving Chinatown neighborhood, by creating affordable housing, by controlling institutional expansion and by providing neighborhood business opportunities;

- To preserve the historic resources of the district by giving legal protection to more than 100 historic buildings; and

- To create a new residential neighborhood downtown.

Planned Development Areas

Article 38 establishes areas in which PDAs are permitted in order to encourage large-scale private development on underutilized sites, while insuring quality design through strict design guidelines and environmental impact standards.

Developments within PDAs are required to provide benefits, such as cultural and community facilities, historic restoration, or affordable housing, so as to realize the goals of the Midtown Cultural District Plan.

Pursuant to Section 38-10 of the Code, the Project is located within an area in which the establishment of PDAs is permitted in the Midtown Cultural District. Specifically, the Project is located in PDA-II which has a maximum building height range of 155 to 400 feet and FARs of 10 to 14. As noted, Article 38 was subsequently amended, however, to allow that in any PDA that exceeds three acres within PDA-II a single building could have a height in substantial accord with 465 feet, if certain design and environmental criteria were met.

Public Benefits in Planned Development Areas

Projects in PDAs must provide benefits sufficient to outweigh burdens in one or more of the following ways:

(a) the construction of a theater or other cultural facility;
(b) the rehabilitation of certain identified landmarks and theaters; or
(c) the provision of affordable housing.

Theaters or Cultural Facilities

The core of the Midtown Cultural District Plan is the creation of a new center for culture and performing arts. Boston's non-profit arts community and the Office of Arts and Humanities has developed a facilities plan to meet the needs of existing arts groups for affordable space. Accordingly, the Midtown Cultural District Plan calls for the creation of nine different performing arts facilities.

Through the adoption of a Resolution regarding the Project dated June 29, 1989, the BRA Board has resolved that the Project meets the objective of the Plan to create facilities, as noted above, in accordance with Section 38-14.1, Development Plan Approval for Development of a New Theater or Other Cultural Facility. Specifically, as a part of Development Plan approval, the Applicant has agreed to create two 199-seat black box theatres to be located either within the project or in a building in the Ladder Block area of the Midtown Cultural District. However, the BRA requires satisfactory assurances that the theaters can be built prior to execution of the Sale and Construction Agreement. An executed Cultural Facilities Agreement with the Boston Cultural Corporation (the "BCC") will satisfy this requirement. In accordance with BRA policy, the use of these facilities must be made available for intended uses (i.e. the maintenance, encouragement, advancement, and making accessible of the arts, culture, and arts education and necessary uses supportive thereof) for groups other than those affiliated with the BCC when there are no scheduling conflicts with the BCC, as established by the BCC. The commitments set forth in this section must be memorialized in a Cultural Facilities Agreement with the BCC.

Housing and Jobs Linkage

The Midtown Cultural District Plan envisions the targeting of housing and jobs linkage monies from Midtown developments to benefit Chinatown. Such funds would be used by Chinatown community groups to design and build new housing in the neighborhood and to create approximately 1,000 job training

slots.

Projected office developments in the Midtown Cultural District are expected to generate about $25 million in housing linkage funds. These funds will help finance the construction of 500 units of affordable housing in Chinatown and at least 150 units of affordable housing on the Hinge Block, which are projects included in the Chinatown Housing Initiative Program ("CHIP"). The CHIP addresses the neighborhood's overwhelming need for affordable housing. There are five parcels of land owned by the City on which the 500 units of housing will be built: Parcel R3/R3A, Parcel R-1, Parcel P-2, Parcels P-3, P-4, P-4A, and Parcel P-12.

The Project's housing linkage contribution will be used to further the housing goals of Chinatown as expressed in the Midtown Cultural District Plan. The Applicant has agreed to provide linkage assistance for the development of Parcels A, B, and C, through the Housing Creation process provided for in Article 26A of the Code.

The Midtown Cultural District Plan also includes programs and policies ensuring that members of the Chinatown community have access to the approximately 8,500 construction jobs and 15,000 permanent jobs which will be created in the district.

Since Chinatown is directly affected by major developments planned for the Midtown Cultural District, job training slots created by jobs linkage funds from Midtown developments will be made available to Chinatown residents. The Plan requires that developers create job training programs that will prepare Chinatown/South Cove residents for jobs at Midtown project sites.

The Applicant has agreed to work with the Neighborhood Jobs Trust in determining how the jobs linkage contribution for the Project will be used to further the objective of the Plan to train neighborhood residents for both the construction and permanent job opportunities created by Midtown development. Specifically, at this time the Applicant has proposed the following programs to further the Midtown Cultural District policies: a Retail Jobs Academy to train retail workers, a women in the Building Trades pre-apprenticeship construction training program, and an English as a Second Language program. As previously stated, the Applicant has agreed to work with the Neighborhood Jobs Trust in further refining this jobs training package. The providers chosen to provide these services must be chosen from a group of downtown and neighborhood service providers, to be approved by the Neighborhood Jobs Trust and also in the case of Jobs Creation, by the Director of the Mayor's Office of Jobs and

Community Services.

In addition to the foregoing, the Applicant has agreed to participate in the Boston for Boston program and the Boston Residents Construction Employment Plan.

Daycare Facilities

The future economy of the Midtown Cultural District will depend, to a large extent, on the ability of its employers to attract and retain qualified workers, and the provision of daycare facilities is an important benefit for employees. Article 38 requires that a Proposed Project which is greater than one million square feet devote at least 12,000 square feet to day care facilities, either on-site or off-site, within the Midtown Cultural District, Bay Village, or Chinatown. However, at least 4000 square feet must be on-site. In addition, a goal of 50 percent affordability and 25 percent minimum affordability has been established by the BRA.

Through the adoption of a Resolution on June 29,1989 regarding the Project, the BRA found that the Project complied with Section 38-18.4 by proposing to provide 4,000 square feet of space for daycare use within the Project and 8,000 square feet elsewhere within the Midtown Cultural District. The facilities must be operated in accordance with daycare regulations to be adopted by the BRA. Among the specific criteria informing selection of providers will be the provider's success in operating day care centers with a substantial affordable care component.

Neighborhood Business Opportunities

Article 38 requires that an Applicant for a Proposed Project over 50,000 square feet use best efforts to market space within a Proposed Project to Neighborhood Business Establishments from Chinatown. Such best efforts must be detailed in a Neighborhood Business Opportunity Plan.

The Applicant has committed to fulfill this requirement in accordance with Section 38-18.3, as outlined by the Development Impact Project Plan approved by the BRA June 29, 1989.

Specifically, the Applicant will work with a neighborhood-based broker to finalize and implement a Neighborhood Business Opportunities Plan targeted towards neighborhood businesses to ensure business opportunities within the Project. The Applicant will offer space to such businesses under terms and conditions comparable to those generally offered to other lessees of the Project. The Applicant will provide advice on business planning,

merchandising, design, budgeting, staffing and financing to these businesses. The foregoing obligations cannot in any way hinder the opportunity to lease space in the Project from being made available to entrepreneurs from all of Boston's neighborhoods.

General Design and Environmental Impact Standards in Planned Development Areas

Projects in PDAs must also adhere to certain design and environmental impact standards in addition to those set forth in Article 31 of the Code. These standards concern shadow and wind impacts, transportation access, the skyline, landmarks and historic buildings, and the pedestrian environment and are set forth in Section 38-16. Through the adoption of a Resolution on June 29, 1989, the BRA found that the Development and Development Impact Project Plan for the Project was in substantial accord with all of the General Design and Environmental Impact Standards set forth in Section 38-16 of the Code. Exceptions from certain provisions of the Code and conditional use permits were recommended providing that the Project be subject to the BRA development and design review approval and that final plans incorporate mitigation measures deemed necessary by the Director to minimize any adverse environmental impacts. Additional information requested in this determination is necessary to carry out the development and design review processes of the BRA and establish to what extent mitigation measures may be required.

II. DEVELOPMENT REVIEW REQUIREMENTS - ARTICLE 31

Article 31 of the Code institutes a process by which large-scale development projects will be reviewed by the BRA. In its review of the DPIR, the BRA has identified certain components which are insufficient and which you must modify, and additional information which the BRA requires in order to issue an Adequacy Determination. The following is a description of the sufficiency of the materials submitted in the DPIR, and the additional materials which you must include in the FPIR.

The following are the BRA's specific comments in reference to the DPIR.

I. TRANSPORTATION COMPONENT

Each of the transportation elements submitted in the DPIR is sufficient to satisfy the scoping determination, but for the following information which must be included in the FPIR.

A. Traffic Management Element

1. The Applicant must provide an analysis of the regional impact of transportation demand generated by the Project. See letter from the Conservation Law Foundation, June 15, 1989. The analysis must project which regional highways and arterials will be used by automobiles to reach the project, and the estimated impact of such an increase in traffic on such highways and arterials.

2. The scope for this project required the analysis of twenty-two intersections which preliminary examination indicated would be affected by project-generated traffic. Upon review of the DPIR and other information, it appears that two intersections which were not scoped for analysis may also be significantly affected by increases in traffic volume. The following intersections must be analyzed for the existing no-build and build conditions in the FPIR.

   Kneeland/Surface Artery
   Church Green (Lincoln/Summer/Bedford)

3. Assumptions in the DPIR, based on the likely diversions which the creation of the westbound Essex Street link would induce, are in need of adjustment. Specifically, traffic going to and from background projects would use the widened Essex Street to a greater degree than is projected in the DPIR, resulting in improvement to some intersections. New assumptions must be incorporated into the FPIR.

4. The Applicant has committed to the substitution of existing pedestrian easements on site for new pedestrian easements within the improvements on the Project. A plan of such pedestrian easements must be included in the FPIR, including the specific hours during which the easement spaces will be accessible to the public and the type and hours of security to be provided.

5. The peak hour pedestrian counts on Figures IV-28 - IV-30 are higher than those indicated in the Commonwealth Center counts, for those locations which are analyzed in both studies. Differences should be clarified and discrepancies resolved.

6. Due to proximity in phasing and distance between the Project and the proposed Commonwealth Center project, it is important that the BRA and the Boston Transportation Department understand the joint impact of these projects. The FPIR must outline the differences in method and assumptions in the formulation of the Transportation Access Plans for both Projects and explain how each of these differences led to differences in level of service for common intersections.

7. The FPIR must include data regarding existing and future truck and taxi volumes and existing transit riderships.

8. Information available to the BRA indicates that the total existing off-street parking spaces in the study area is 9,010 not 10,710 since the P.O. Square and 125 Summer Street garages are not yet open. The FPIR must reflect this correction.

9. The following changes should be made to tables and text:

   - Table IV-5/Pg. IV-26/Figure IV-9 - The FPIR must include peak pedestrian periods for A.M. Peak.

   - Figures IV-18/IV-19 - The FPIR must include correct roadway terminology, i.e., "existing" roadway network should refer to the roadway network as it exists today (1989).

   - Table IV-21 - The FPIR must clarify whether "auto trips" represent "person" trips or "vehicle" trips.

   - Pg. IV-108 - The new exit at Hayward Place/Washington Street would serve the Chinatown Orange Line Station, not the Downtown Crossing Station.

10. A comparison of existing traffic volume data for intersections which were commonly analyzed for the Boston Crossing, Commonwealth Center, and the One Lincoln Street projects shows peak-hour volume differences among the three reports. For some intersections (e.g., Tremont/Boylston) total entering volumes are comparable, but there are differences in the volumes on the different

entering links. There are also differences in the LOS analyses for these intersections. Future volumes and LOS results likewise are different. Coordination among the three projects is required and all differences must be satisfactorily resolved.

11. Coordination among this Project, the Commonwealth Center project, and the One Lincoln Street project with regard to mitigation is needed and should be reported in the FPIR. In addition, the Applicant should report on efforts to establish a Traffic Management Association among the three projects in order to make such mitigation measures more effective.

B. Parking Management Element

1. The Applicant's rate structures must encourage short-term, non-commuter parking and provide equal treatment in rates for patrons of cultural and community facilities including preferential rates if any are offered to patrons of community and cultural facilities.

2. Section 6.3 states that at present there is a 190-space surplus in the existing Lafayette Place parking garage. More information is needed to evaluate whether this number might be increased through parking management measures. The demand generated by the Lafayette Hotel, the retail portion of Lafayette Place, Jordan Marsh and other (non-project related) uses must be disaggregated, so that the demand for non-work parking can be more accurately assessed.

3. The DPIR presents an estimate of parking demand based on trip generation and modal split assumptions. It is assumed that 27.5% of retail non-work trips and 30% of work trips occur by auto, together accounting for the majority of trips. The FPIR must present mitigation measures which can decrease these percentages, with estimations of the specific decrease in percentage.

4. The FPIR must indicate how future No-Build parking demand was determined.

5. The supply/demand analysis indicates a deficit of 2,000-2,300 spaces in the study area. A discussion of proposed mitigation of this deficit is required in the FPIR.

C. Construction Management Element

1. It is unclear whether Washington Street would be closed from Avenue de Lafayette to West Street to provide a staging area or whether one lane would remain open. This would seem to be required to service the West Street properties. The FPIR must clarify this.

2. There seems to be some discrepancy in the timing of truck deliveries. On page V-161, it is stated that most deliveries would be completed before the PM peak hour or at night, whereas elsewhere it is stated that deliveries would be scheduled after the PM peak hour. This must be clarified.

3. The construction of Boston Crossing will be occurring at approximately the same time as the construction of the One Lincoln Street project. Truck routes to Boston Crossing are proposed adjacent to the One Lincoln Street project. The impact of the One Lincoln Street construction on truck circulation/access to Boston Crossing must be evaluated in the FPIR.

4. Mitigation measures to minimize construction worker parking must be included in the FPIR.

The information requested in the Construction Management Element will assist in the formulation of a Traffic Maintenance Plan pursuant to the City's Construction Management Program which will help to ensure that area traffic will be able to maneuver around the site. The execution of such Plan between the Applicant and the BTD is a prerequisite to the issuance of a building permit.

D. Monitoring Element

The monitoring program described in the DPIR is sufficient to satisfy the scoping requirements.

Except for the above requirements, the Transportation Component

of the DPIR is sufficient to satisfy the scoping requirements.

III. ENVIRONMENTAL PROTECTION COMPONENT

A. Wind

The analysis of the wind impacts submitted in the DPIR is sufficient to satisfy the scoping requirements, but for the following information which must be included in the FPIR:

1. The FPIR must include a map indicating velocity changes at each sensor point as requested by the scoping determination.

2. The FPIR must include an analysis of seasonal wind impact as requested by the scoping determination.

3. A comparison of sensor points which were tested for both the Commonwealth Center and Boston Crossing projects in the DPIRs indicates differences in the results. This discrepancy must be explained in the FPIR.

4. The Project as described in the DPIR would exceed BRA standards at three locations (points 3,4,5). However, during schematic design review changes were made to the Project's scale and massing which may affect these points. Specifically, building height and mass were transferred from the south to the north tower. These points should be re-tested for the FPIR, and mitigation proposed if standards are exceeded.

5. The sensor locations for Point 16 must be located in the Summer Street seating area rather than on the sidewalk.

B. Shadows

1. On page V-43 daylight savings time adjustment should have been made only for the autumnal equinox (and the summer solstice), not for the vernal equinox. If the March 21 studies were done assuming daylight savings time, they must be redone with the correct time.

2. Through the adoption of a Resolution on June 29, 1989 regarding the Project, the BRA found that the

Project complied with the shadow criteria contained in Section 38-16.1. However, such Resolution required that the FPIR contain documentation exhibiting that the area of the Boston Common shaded beyond the two-hour limit described in Section 38-16.1 of the Boston Zoning Code not exceed one acre for the class of projects described in Section 38.16.1. Such documentation should include shadow diagrams, measurements, and calculation of the shadow.

C. Solid and Hazardous Wastes

1. The results of further subsurface explorations and soil and groundwater testing must be included in the FPIR.

2. A definite description of any commitment to a program of recycling of operational waste is required.

D. Noise

1. More specific information regarding the HVAC systems (location, specifications, etc.) must be included in the FPIR.

E. Geotechnical and Groundwater Impacts

1. Pre-construction inspection of adjacent buildings must be included in the procedures designed to limit adverse impacts on adjacent structures. The FPIR must include more specific information regarding the performance criteria for the lateral earth support system and remedial measures in the event of unacceptable performance.

2. If dewatering of the Bloomingdale's site will require discharge into the City's storm drain system, a permit will be required from the Boston Water and Sewer Commission. The FPIR must include the requirements of the Commission for a permit.

F. Air Quality

1. The Applicant must provide an analysis of regional transportation and air quality impacts pertaining to tropospheric (ground-level) ozone. See letter from the Conservation Law Foundation, June 15,

1989. In order to do so, the Applicant must perform a mesoscale analysis of the additional hydrocarbon and nitrogen oxide emission burdens which the Project will produce and determine estimated ozone levels. Consultation with the Department of Environmental Quality Engineering regarding the appropriate methodology for this analysis is recommended.

2. Coordination is needed with the Commonwealth Center and One Lincoln Street projects with respect to the implementation of mitigation measures to reduce CO levels. A plan for such coordination must be described in the FPIR.

3. Optimization of the downtown traffic signal system is proposed as a mitigation measure. However, it appears from the transportation section discussion that the traffic analysis already assumed an optimization of the system. This needs to be clarified in the FPIR.

III. URBAN DESIGN COMPONENT

The Development and Development Impact Project Plan approved by the BRA on June 29, 1989 included Schematic Design Plans for the Project. In accordance with BRA procedures, a Project must be reviewed at several stages: schematic design, design development, and working drawings. As this review process is carried out, the points listed below must be addressed and then documented in the FPIR. While some of the changes requested below have already been made by the Applicant during review of the schematic design, they should nonetheless be documented in the FPIR as well. In addition the Applicant must address the issues raised in the June 15, 1989 letter from the Boston Society of Architects (the "BSA") and document any changes which have been made in response to the BSA's concerns. With the exception of these following studies, the materials submitted in the Urban Design Component of the DPIR are sufficient to satisfy the scoping requirements.

A. Massing

1. The FPIR must include an alternative configuration that conforms with Article 38, as amended, reduces shadow impacts on the Common, and reduces the

average floor plate area of the south tower.

2. The ratio of height to perceived width of both the north and south towers must be increased in the alternative configuration described above.

3. The distance between the south tower and the proposed towers on the west side of Washington Street at Avery and Boylston Streets must be increased in the new alternative.

4. The FPIR must provide alternatives that emphasize the variety of massing elements in the base of the project and the differences in their streetwall heights and setbacks.

B. Streetscape

1. The Project's Harrison Avenue facade must be treated with the same level of concern for pedestrian comfort and amenity as the other project facades with respect to both the building elevation at the ground floor level as well as public improvements and other streetscape features at the sidewalk. The intersection of Harrison Avenue Extension and Avenue de Lafayette must not be treated as a "back alley."

2. The FPIR must contain studies illustrating maximized retail frontage with the maximum number of entry points on Washington, Summer, and Chauncy Streets. The FPIR must demonstrate continuous retail frontage with individual storefronts along Washington Street or provide an explanation regarding the engineering constraints presented by the underground garage which preclude this.

3. A design must be provided which illustrates pedestrian access to the specialty retail stores directly aligned with Bedford Street.

4. The FPIR must indicate more generous entries to "Opera Way" (the pedestrian way proposed to replace Avenue de Lafayette between Harrison and Washington).

5. The FPIR must include proposed public easements and hours of operation for interior pedestrianways.

6. Detailed plans must be included showing seating and amenities in the interior pedestrianways and the fifth floor food court.

7. Detailed plans must be included in the FPIR for the Washington Street sidewalk widening including paving lighting, and street furnishing.

C. Open Space

1. The FPIR must explore opportunities for outdoor public open space and performance areas at the West Street entry and elsewhere on the site.

2. The FPIR must illustrate options for use of rooftop space if any and for rooftop playground space to be used by the childcare facility.

3. The FPIR must explore opportunities for the improvement of the Summer Street park area.

D. Facades

1. The FPIR must include detailed elevation drawings and wall sections of exterior facades and interior public spaces describing materials and details for project elements.

2. The FPIR must contain options illustrating the recladding of the lower floors of the existing buildings on Chauncy Street and Avenue de Lafayette.

3. The FPIR must provide a discussion of visual arts opportunities in the Project, specifically, the Applicant's commitment to select artists to advise project architects in the design of the lobby, the marquee, the facades, and other components of the theatre project and in the identification of appropriate spaces for temporary and permanent public art in Boston Crossing and the surrounding streetscape.

4. The FPIR must present options that emphasize the variety of facade treatment along Washington Street.

IV. HISTORIC RESOURCES COMPONENT

The materials submitted in the Historic Resources Component of the DPIR are sufficient to satisfy the scoping requirements but for the following technical corrections:

1. The Paramount Theatre is a designated Landmark in addition to having status as a class II historic building.

2. The Opera House, the Evans House, and Filene's are currently being petitioned for Landmark status.

3. The Temple Place Historic District is now listed on the National Register.

4. The Proctor Building is a designated Boston Landmark.

5. The Ladder Blocks are considered the Pre-Fire Mercantile District, not the Pre-Fire Commercial District.

V. INFRASTRUCTURE SYSTEMS COMPONENT

The analysis of the Project's impact on infrastructure systems submitted in the DPIR is sufficient to satisfy the scoping requirements, but for the following information, the submission of which is required in the FPIR:

1. The extensive utility relocations necessitated by the Project require ongoing attention to the construction strategy and process. Refinement and documentation of utility upgradings and relocations, both temporary and permanent, is required in the FPIR.

2. The discussion of systems capacities does not address the impacts of other projects sufficiently as was requested. Instead, projected total consumption/generation levels are listed project-by-project, and there is no specified discussion of the inclusion of this information in the system capacity analysis. The FPIR must discuss combined systems impacts.

3. The Applicant should report on discussions held with the various public and private utility companies regarding required improvements. With

respect to sewer improvements, the Applicant must indicate to what degree a commitment to build separated storm drainage and sanitary sewage systems in abutting streets and in the lines to the Essex Street/Central Artery intersection can be made. With respect to proposed improvements to the water distribution system, the developer should indicate whether a commitment will be made to replace the proposed 12" Southern Low Service line in Chauncy Street and the 12" Southern High Service line in Hayward Place and Harrison Avenue Extension, both indicated in Figure VIII-4.

4. The heating needs of the Project are planned to be provided by steam (Boston Thermal). An expanded discussion of steam system expansion and upgrading, if necessary, is required in the FPIR.

5. Additional discussion of opportunities for recycling and other conservation measures is required; i.e., can waste water from the cooling towers blowdown and the steam condensate be recirculated?

6. The Lafayette Hotel information should be included in infrastructure analysis charts featuring existing conditions.

7. The vaults must be constructed in such a way as to eliminate or minimize any pedestrian conflict or hazard during normal use and maintenance. The vault covers must match the pavement context. In general, the project should adopt the new Downtown Crossing and Cultural District sidewalk standards, as they are finalized by the DPW consultants.

8. Measures to implement the MWRA goal of reducing the inflow of storm water and/or the infiltration of groundwater into the sewage collection system must be included in the FPIR. The MWRA goal is a 2 for 1 reduction of infiltration/inflow, i.e., I/I flow into the system must be reduced at a rate of two times the projected new sanitary sewage flow.

9. According to the DPIR, the Boston Water & Sewer Commission ("BWSC") will model the project's demands for water on its computer system to verify the DPIR's finding that water flow and pressure

sanitary and fire fighting requirements (VIII-8). The results of BWSC's study should be provided in the FPIR, and the Applicant must indicate commitments to implement BWSC recommendations, if any.

VI. AGREEMENTS

The following must be provided in form and content satisfactory to the appropriate signatory public agencies before the Project can receive final approval by the BRA. They are not required for the FPIR.

1. Transportation Access Plan Agreement

2. Traffic Maintenance Plan in conformity with the City's Construction Management Program

3. Sale and Construction Agreement

4. Cultural Facilities Agreement pursuant to Article 38 of the Code

5. Memorandum of Understanding with Chinatown regarding Housing Creation and Job Training

6. Boston Residents Construction Employment Plan, pursuant to Chapter 12 of the Ordinances of 1986 of the City of Boston, as amended by Chapter 17 of said Ordinances, and Executive Order Extending Boston Residents Job Policy, signed by the Mayor on July 12, 1985

7. Memorandum of Understanding and First Source Agreement implementing the Boston for Boston program

8. Application of Lafayette Place Associates with respect to the Chapter 121A termination

But for the required corrections, clarifications, and additional information described above, the DPIR submitted is sufficient to satisfy the Scoping Determination.

We look forward to reviewing the FPIR.

Sincerely,

Pamela Wessling

Pamela Wessling
Assistant Director
Urban Design and Development

APPENDIX O MEPA CORRESPONDENCE

O-1 CERTIFICATE DATED FEBRUARY 26, 1988

O-2 PROJECT CHANGE LETTER DATED DECEMBER 30, 1988

O-3 PROJECT CHANGE LETTER DATED MAY 15, 1989

APPENDIX C-1

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

February 26, 1988

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Lafayette Place. Phase II
PROJECT LOCATION	: Boston
EOEA NUMBER	: 6929
PROJECT PROPONENT	: Lafayette Place Associates
DATE NOTICED IN MONITOR	: January 27, 1988

Pursuant to the Massachusetts Environmental Policy Act (G.L..c.30,s.61-62H) and Sections 11.04 and 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that the above project requires the preparation of an Environmental Impact Report.

Lafayette Place, Phase II consists of approximately 500,000 square feet of office space and 160,000 square feet of retail space in a 328 foot high building. In addition, two levels of parking below ground will provide an additional 300 parking spaces.

This project is considered to be categorically included for the preparation of an Environmental Impact Report, according to the MEPA regulations, 301 CMR 11.25. The MEPA thresholds exceeded are:

i. Development Size. (301 CMR 11.25 (15). The proposed project will add about 660,000 gross square feet of office/retail space. The MEPA threshold is 500,000 square feet.

ii. Development Scale. (301 CMR 11.25 (16). The proposed project is 328 feet in height, not including mechanicals. The MEPA threshold is 300 feet.

iii. Average Daily Traffic (301 CMR 11.25 (19). The ENF states that the project will generate more than 4500 new trips per day. The MEPA threshold is 3000 average daily trips.

With respect to Boston projects, the MEPA regulations, 301 CMR 11.13 (4) provide for the coordination of project reviews by both MEPA and the BRA. It is intended that the Lafayette Place review will be coordinated, in as much as the the Draft EIR prepared to address the issues within MEPA purview will also incorporate any Draft Environmental Impact Assessment Report (EIAR) prepared for the BRA. Likewise, a Final MEPA EIR shall incorporate any Final BRA EIAR.

The Boston Redevelopment Authority previously issued a comprehensive scope for the required Environmental Impact Assessment Report on April 22, 1987. That scope covers impact issues, relating to aspects of the project which exceed MEPA thresholds for an EIR , such as traffic,wind, and shadow. The BRA scope also covers the impact areas where MEPA jurisdiction has clearly been established, such as sewer and air quality. Other important planning objectives for the City of Boston will also be dealt with, including alternate development options consistent with the Interim Planning Overlay District, the Midtown/Cultural District plan, and the needs of the Chinatown community.

Given the breadth of the BRA scope, there will be no additional requirements imposed, other than a request that the comments submitted be considered within the EIR.

February 26, 1988
DATE

JAMES S. HOYTE, SECRETARY

Comments received:

2/16/88	MWRA
2/16/88	BRA
2/8/88	MAPC
2/24/88	City of Boston Environment Department

JSH/NB/nb

The Commonwealth of Massachusetts

Office of the Secretary of State
Michael Joseph Connolly, Secretary

Massachusetts Historical Commission
Valerie A. Talmage
Executive Director
State Historic Preservation Officer

February 25, 1988

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

ATTN: MEPA Unit

RE: Lafayette Place, Phase II, Boston, MA EOEA #6929

Dear Secretary Hoyte:

Staff of the Massachusetts Historical Commission have reviewed the Environmental Notification Form for the proposed project listed above.

The project site is adjacent to the Commercial Palace Historic District and the Textile Historic District which have been determined to be eligible for inclusion in the National Register of Historic Places. The site is also adjacent to the Washington Street Theatre District and within the Boston Theatre Multiple Resource Area, both of which are listed in the National Register.

The Environmental Impact Report should include a discussion of the historic resources within the project's area of potential impact. In addition, the EIR should outline what impacts the proposed development will have on the historic resources, and what measures will be taken to avoid, minimize or mitgate any adverse effects.

The project proponent may find it most efficient to coordinate MEPA requirements with state and federal review procedures.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), M.G.L. Ch. 9, ss. 26-27C, as amended by Ch. 152 of the Acts of 1983 (950 CMR 71.00) and MEPA.

If you have any questions, please contact Maureen Cavanaugh at this office.

Sincerely,

Valerie Talmage

Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

xc: Boston Landmarks Commission
Boston Preservation Alliance
Boston Redevelopment Authority
HMM Associates

VAT/MC/dr

Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

Serving 101 Cities & Towns in Metropolitan Boston

February 8, 1988

The Honorable James S. Hoyte, Secretary
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

RECEIVED

FEB 11 1988

OFFICE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

Project Identification

Project Name: Lafayette Place - Phase II

Project Proponent: Lafayette Place Associates

Location: Boston

EOEA#: 6929

MAPC#: ENF-88-58

Received: January 19, 1988

Dear Secretary Hoyte:

In accordance with the provisions of Chapter 30, Section 62, of the Massachusetts General Laws, the Council has reviewed the Environmental Notification Form identified above and offers the following comments:

1. ___ Environmental Notification Form adequate; no Environmental Impact Report should be required.

2. ___ Before a determination can be made as to whether or not an Environmental Impact Report should be required, additional information should be provided on ( ) probable environmental impacts, ( ) alternatives to proposed action and/or ( ) measures proposed to mitigate probable impacts.

3. X An Environmental Impact Report ( ) should be required, (X) is categorically required.

4. X Additional comments are attached.

Sincerely,

David C. Soule
Executive Director

DCS/JB/cap
cc: Richard Dimino, MAPC Rep., Boston
Paul Reavis, BRA
Lafayette Place Associates
Joan Blaustein, MAPC staff

Frank E. Baxter, *President* Franklin G. Ching, *Vice-President* Marjorie A. Davis, *Secretary* Martha K. Gjesteby, *Treasurer*

Executive Director David C. Soule

1. Alternatives Considered - Alternative B, the 155' scheme, should be described and the reasons for rejecting it should be stated.

2. Traffic - The proponent should consider the traffic impacts of nearby projects including 125 High Street, 125 Summer Street, the Kingston-Bedford-Essex project and Parcel 7 when performing the traffic analysis.

3. Open Space - The ENF states that the project will postively affect open space by creating a pedestrian arcade. The EIR should consider other open spaces besides a pedestrian arcade such as a vest-pocket park.

BOSTON
REDEVELOPMENT
AUTHORITY

Stephen Coyle *Director*

One City Hall Square
Boston, MA 02201
(617) 722-4300

Mepa

February 16, 1988

RECEIVED
FEB 17 1988
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02205

Attention: MEPA Unit

RE: EOEA #6929: Lafayette Place Phase II
Environmental Notification Form

Dear Secretary Hoyte:

Pursuant to regulations implementing M.6.L., Chapter 30, Sections 62-62H, the Boston Redevelopment Authority has reviewed the above-referenced Environmental Notification Form and submits the following comments.

The Lafayette Place Phase II project is proposed for the Hayward Place parcel, adjacent to the existing Lafayette Place shopping mall. The proposed project involves a retail and office development on a 1.5 acre site bounded by Washington Street, Hayward Place, Harrison Avenue, and Lafayette Place. A new 24-story, 660,000 square-foot building with underground parking for 300 cars is proposed on the site.

Under the City's Development Review Procedures, Lafayette Place Associates was issued an Environmental Impact Assessment scope by the Authority on April 22, 1987 (attached). The scope specifies that environmental analyses be submitted for the following areas:

a. transportation,
b. wind,
c. shadow,
d. daylight,
e. excavation/soil conditions,
f. air quality,
g. noise,
h. infrastructure,
i. historical landmarks, and
j. construction impacts.

Boston Redevelopment Authority is an equal opportunity Affirmative Action Employer

RECEIVED

FEB 17 1988

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

These studies, which also are to include the Transportation Access Plan required by the City of Boston, are to be incorporated into a Draft Project Impact Report to be submitted by the developer which will be made available to agencies and interested groups and individuals for public review in accordance with the procedures established by Article 31 of the Zoning Code. The developer has not yet submitted a Project Notification Form with the Authority, which is a prerequisite to the filing of a Draft Project Impact Report.

This site is regulated by Article 27D of the Boston Zoning Code which establishes the Downtown Interim Planning Overlay District (IPOD). The Downtown IPOD establishes height and massing controls on an interim basis throughout the downtown while permanent zoning is developed. The Hayward Place site is situated in a Medium Growth Subdistrict, as defined by Article 27D, which establishes building heights of 125' to 155' and Floor Area Ratios of 8 to 10.

In the scope, the developer was directed to include studies on the impacts of several alternatives for Lafayette Place II including a no-build scenario, an alternative consistent with the Interim Planning Overlay District, as well as the alternative preferred by the developer. These alternatives should be included in the MEPA scope as well.

In furtherance of an effort to develop permanent zoning for this area, the Authority has undertaken a major new planning initiative for this area of the downtown. The Midtown/Cultural District planning process represents an effort to create an active mixed-use district in an area which has undergone a long period of neglect. The Midtown/Cultural District plan will promote land uses that generate activity, diversity, and safety and which will create a concentrated center of office, commercial, residential and cultural uses. Among the objectives of the Plan are the revitalization of the area for cultural use through the protection of existing theatres, the renovation of dormant theatres, and the promotion of space devoted to cultural use in new developments. Any development proposed for the Hayward Place site will be evaluated within the context of this Plan.

In addition, Lafayette Place Associates will be required to explore the impact of the project on the adjacent Chinatown community, including opportunities for commercial and residential expansion.

The potential transportation impact of the proposal is a major issue which will be analyzed in the Draft Project Impact Report. The ENF notes that the widening of the Washington/Hayward corner and the widening of Essex Street are being considered in project planning. The Authority's scope, however, requested analyses beyond these initiatives. For example, the scope directed that the traffic analysis assess the following four circulation options:

1. the existing traffic circulation pattern, including retention of Avenue de Lafayette in its present location;

2. closing Avenue de Lafayette and redirecting traffic circulation to Hayward Place and westbound Avery Street;

3. extending the Washington Street pedestrian mall and the resulting impact on Temple, West, and Tremont Street; and

4. widening Essex Street for two way traffic from Avenue de Lafayette to Atlantic Avenue.

In addition, the City of Boston Transportation Department has since undertaken the study of other roadway alignments in this area. Specifically, the BTD is attempting to create an arterial connection from Atlantic Avenue to Tremont Street by extending Avery Street through the Hayward Place parcel. The circulation pattern produced by this option and the building's impact on the resulting street system should be analyzed as well.

Thank you for the opportunity to comment on the ENF submitted for Lafayette Place Phase II.

Sincerely,

Stephen Coyle

Attachments

cc: Carl Geupel
Lafayette Place Associates

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

August 11, 1987

Mr. Marco T. Ottieri
Lafayette Place Associates
1 Avenue de Lafayette
Boston, MA 02111

Dear Mr. Ottieri:

Proposed amendments to the Zoning Code will affect both the design of Lafayette Place II and the process of its review. The Downtown Interim Planning Overlay District includes restrictions on height and massing which limit development on the Hayward Place site to heights of 125-155 feet and floor area ratios of 8-10. New review procedures, outlined in the proposed Article 31, require submission of environmental studies similar to those which the BRA typically requests of developers, but the revised procedures set a specific time frame for review.

You have proposed to develop a building which exceeds the limits established by the IPOD. In order for us to evaluate adequately your proposal, I suggest that the environmental assessment for Lafayette Place II include studies on the impacts of several alternatives, including a no-build scenario, one which fits within the IPOD restrictions, and your preferred alternative. The scope of work should include all of the elements which I outlined in my letter of April 22, 1987. In addition, the report should evaluate the project's impacts on Boston Edison Company's plans to route a new utility line under Avenue de Lafayette.

I look forward to reviewing your proposal once we receive the necessary materials for a thorough analysis of Lafayette Place II.

Sincerely,

Stephen Coyle

Attachment

Boston Redevelopment Authority is an Equal Opportunity Affirmative Action Employer • Equal Housing Opportunity

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn

Stephen Coyle

April 22, 1987

Mr. Marco T. Ottieri
Lafayette Place Associates
1 Avenue de Lafayette
Boston, MA 02111

Dear Mr. Ottieri:

As part of the Boston Redevelopment Authority's review of the Lafayette Place II development, the Authority requires the submission and approval of a comprehensive environmental impact report, as was discussed at your recent meeting with BRA staff. This impact report shall incorporate the Transportation Access Plan which is required by the City of Boston.

The studies which are required for your proposal are listed in the attached Scope of the Environmental Impact Assessment, which includes the format of the EIA and a description of the environmental issues to be addressed.

Prior to presentation of your proposal to the BRA Board, the environmental studies will be distributed to public agencies and interested groups and individuals for a 30-day public review period. Prior to the Authority's approval of your project, the environmental studies and any necessary mitigation measures must meet with Authority approval.

Please work with my staff in coordinating the content and timing of the environmental report with the ongoing design review process.

As you formulate your plans for Lafayette Place II, the project should be analyzed based on the height and massing controls outlined in the proposed Downtown Interim Planning Overlay District amendment to the Zoning Code. The restrictions specified for the Hayward Place limit project height to 125-15 feet and FAR 8-10. Once established, IPOD controls will apply to downtown projects, including Chapter 121A projects, for two years.

I look forward to continuing our cooperative review with you during the coming months.

Sincerely,

Stephen Coyle
Director

Boston Redevelopment Authority is an Equal Opportunity Affirmative Action Employer • Equal Housing Opportunity

LAFAYETTE PLACE II DEVELOPMENT

BRA Environmental Impact Assessment Scope

Process

Due to the scale and potential impact of the proposed development, the Boston Redevelopment Authority, under its Development Review Procedures, will require a full Environmental Impact Assessment Report (EIA) which will be made available for public and agency review prior to final approval of the project by the Authority. The EIA is to be published in draft and final forms, the Final EIA to respond to comments received on the Draft EIA as well as provide revised or corrected analyses if required. A thirty-day public comment period follows publication of both the Draft and the Final EIAs. The project proponent shall furnish the Authority with sufficient copies of the reports for public and agency distribution.

Format of the EIA

The EIA shall include a copy of the BRA scope of the impact assessment report as well as a copy of the separate Transportation Impacts/Access Plan scope.

The EIA shall include the following sections:

1. Executive Summary: A summary of the Report and its findings, brief and understandable by the lay person, shall be included at the beginning of the report.

2. Project Description: A detailed description of the project, including its history and project background, and a statement of the project objectives and relation to the BRA's downtown planning goals. A discussion of project alternatives also shall be included.

3. Project Area Description: A description of the environmental surroundings as they exist before the project is commenced, including the physical, economic, and social characteristics in the immediate area of the project, and any unique or special aspects which should be considered.

4. Environmental Impact Analyses: A detailed description of the probable impacts of the project on the environment, including both damage and benefit to the environment arising from the project.

5. Mitigation Measures: A description of all measures during design, construction, or operation which will be utilized to minimize environmental damage or produce beneficial impact.

Background data and special studies undertaken in connection with the impact analyses should be included as appendices.

Graphics and maps included in the text shall be clear and readable and should be integrated with the text for easy reference. To the extent possible, all maps should be at the same orientation and include a north arrow, scale and street names.

Scope of Environmental Issues

The following areas of environmental analyses shall be included in the EIA:

A. Transportation Access Plan

See attached "Transportation Access Plan Scope."

B. Wind

Information on pedestrian level winds is required for both build and no-build conditions. Particular attention shall be given to public and other areas of pedestrian use (sidewalks, plazas, building entrances, etc.) adjacent to and in the vicinity of the project site. Location of the hot-wire testing points shall be selected in consultation with the BRA.

1. Wind tunnel testing is to be conducted in two stages - Stage I Qualitative Study and Stage II Hot Wire Testing: For Stage I, an erosion study (or equivalent methodology) shall be conducted to determine potential problem areas and to identify appropriate placement of sensors for hot wire testing.

2. Wind tunnel testing is to be conducted according to the following criteria:

   a. Results of wind tunnel testing shall be consistently presented in miles per hour (mph).

   b. Velocities shall be measured at a scale equivalent to 6 feet above ground level.

   c. Wind directions from the sixteen compass points shall be evaluated.

   d. The project area model shall extend outward from the project site at least 1,800 feet full scale and shall include all existing buildings, buildings under construction, and buildings expected to be completed by the analysis date of the proposed project (1990).

3. Hot wire data shall be presented both in tabular form and graphically on a map to indicate velocity changes between build and no-build conditions.

   a. The effective gust velocity can be computed by the formula: average hourly velocity plus 1.5 x root mean square (rms) variation about the average.

b. Analysis shall be presented as follows:

- o Present data for existing (no-build) and future build scenarios as follows:
  Mean velocity (exceeded 1% of time)
  Effective gust velocity (exceeded 1% of time)

- o Compare mean and effective gust wind speeds on both annual and seasonal basis, by wind direction.

- o Provide a written descriptive analysis of wind environment and impacts for each sensor point including such items as source of winds, direction, seasonal variations, etc., as applicable. Include analysis of suitability of location for various activities (e.g., walking, sitting, eating, etc.) as appropriate.

- o Provide maps of sensor locations with wind speed data, graphically indicating changes in wind speeds.

c. For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and mitigate potential adverse impact shall be identified.

C. Shadow

1. A shadow impact analysis shall be undertaken, with particular attention given to plazas, sidewalks, and other public open space areas in the project vicinity.

2. Shadow impact analysis must include net new shadows as well as existing shadows.

3. Shadow analyses must include shadow impacts for build and no-build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. conducted for four periods of the year at the vernal equinox, autumnal equinox, winter solstice, and summer solstice.

4. Shadow analyses also are to be conducted at 10:00 a.m., 11:00 a.m., 12:00 noon, 1:00 p.m., and 2:00 p.m. on October 21 and November 21, and must show the incremental effects of the proposed massing on proposed or existing public spaces including major pedestrian areas.

D. Daylight

A daylight analysis for build and no-build conditions should be conducted by measuring the percentage of skydome that is obstructed by the project. Specific technique and graphic methodologies required for determining the percent of obstructed skydome will be provided by the BRA.

E. Excavation/Soil Conditions

1. A description of the proposed foundation construction, including amount and method of excavation and any proposals for blasting and/or pile driving shall be provided.

2. An analysis of sub-soil conditions, the potential for ground movement and settlement during excavation, and impact on adjace buildings and utility lines shall be provided.

F. Air Quality

Prior to initiation of the air quality analysis, consultation with the BRA an the Division of Air Quality Control, Department of Environmental Quality Engineering, to determine the appropriate methodology and analytical techn to be used, receptor locations, assumptions, and other input data shall be required. The air quality analysis shall include the following elements:

1. Impact on local air quality from additional traffic generated by th project, including identification of any location projected to exce national or Massachusetts air quality standards

2. Estimation of emissions from the parking garage constructed as p of the project

3. Description and location of building/garage air intake and exhaus systems and evaluation of impact on pedestrians

G. Noise

1. An analysis of the noise impact of the project's mechanical and ventilation (HVAC) systems on the ambient noise environment sha be provided.

H. Infrastructure

An analysis of the project's impact on water and sewer facilities shall include the following:

1. Estimated water consumption and sewage generation from the pro

2. Description of the existing water and sewer (sanitary and storm- drainage) facilities serving the project site, the capacity and adequacy of these water and sewer systems, and an evaluation o the impacts of the project on these systems

3. Identification of measures to conserve resources, including any provisions for recycling

4. Description of the permit requirements of the Boston Water and Sewer Commission

I. Historical Landmarks

A study of the impact of the proposed project on historic and archaeological resources shall include the following elements:

1. A description of historic resources in proximity to the project site, including any National or Massachusetts Register site or district or Landmark designated by the Boston Landmarks Commission and identification of Boston Landmarks Commission ratings for these resources.

2. Possible effects to a National or Massachusetts Register site or district or a Landmark designated by the Boston Landmarks Commission and measures to mitigate any potential adverse impact and enhance the historic quality of these resources.

3. The status of any reviews with the Boston Landmarks Commission and/or the Massachusetts Historical Commission.

4. An evaluation of the potential for the existance of any archaeological resources in the site, including a survey of the historic development of the site (to be coordinated with the City's Archaeologist).

J. Construction Impacts

An examination of the construction impacts of the project shall include the following:

1. Description of construction staging areas

2. Availability and location of construction worker parking

3. Potential dust generation and mitigation measures to control dust emissions

4. Potential noise impact and measures to minimize noise levels

5. Construction truck traffic and access routes to and from the site

6. Provisions for pedestrian safety during construction

Boston

Raymond L. Flynn, Mayor

Feb. 22, 1988

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge St.
Boston, MA 02205

RECEIVED
FEB 24 19[illegible]
OFFICE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ATTN: MEPA Unit

RE: EOEA #6929: Lafayette Place Phase II ENF

Dear Secretary Hoyte:

I am in receipt of the above Environmental Notification Form. Gi the scale of this project and its impact on the surrounding environment, an Environmental Impact Report is clearly in order. Please accept the following comments.

The transportation impacts of this project are potentially major. the first place, a total of 4540 new vehicle trips per day are anticipated to be generated. The effects of this traffic on near intersections must be analyzed. Transit trips must also be accou for, and the ability of the transit system to carry them demonstrated. The existing public parking lot, with 125 spaces, to be replaced by 300 spaces in an underground garage. The use o these spaces, whether commercial or freeze-exempt, must be clarif and approved by the Boston Air Pollution Control Commission. The impacts of pedestrian traffic generated by the project must also examined.

The impacts of the building itself on the transportation system m also be studied. The proposal includes some important changes in street network, specifically the closure of Avenue de Lafayette t vehicle travel and the extension of the Downtown Crossing auto-restricted zone. These changes must be approved by the Boston Transportation Department and the Public Improvements Commission. The closure of Avenue de Lafayette can only be considered if its redundancy can be clearly demonstrated. The proposed pedestrian arcade will be carefully scrutinized by the Transportation Depart with regard to its function as a major public right-of-way in an with potentially extremely high pedestrian volumes. Questions of public accessibility, legibility, and security will be of particu concern.

The extension of Downtown Crossing to the corner of Washington an Hayward potentially restricts vehicular traffic on Temple and Wes Streets, which serve numerous businesses and a subsidized, handicapped-accessible residential building. The issue of access these sites will be the subject of City review, and should be addressed in the EIR.

Richard A. Dimino, Commissioner, Transportation Department
City of Boston/City Hall Square/Boston, MA 02201

Analysis of
The transportation impacts of the project has been required by the Transportation Department in its scope of the Transportation Access Plan. The scope asks for examination of all possible scenarios resulting if Essex Street were widened, or not; if Avenue de Lafayette were closed, or not; and if Downtown Crossing were extended, or not. These scenarios should be included in the EIR scope, even though the developer's preferred alternative involves the closing of Avenue de Lafayette.

The City of Boston has made preliminary studies indicating the need to create a new west-bound arterial connection between Atlantic Avenue and Tremont Street. The current plan is to widen Essex Street east of Avenue de Lafayette, connect Avenue de Lafayette with Avery Street, and reverse Avery Street. The Lafayette Place II project must be coordinated with these plans, and must not preclude their execution in a timely manner. The Transportation Department and the developer have met to discuss this matter. As a result, the scope of the Transportation Access Plan, which is incorporated in the BRA's April 22, 1987 Environmental Impact Assessment scope, has been amended to add traffic analysis of this scenario to the others originally included.

The scope issued for the Transportation Access Plan is attached. Thank you for this opportunity to comment.

Sincerely,

Richard A. Dimino
Commissioner

Attachment

0320t RAD/AJM

TRANSPORTATION ACCESS PLAN

SCOPE

The Transportation Access Plan for Lafayette Place II shall provide a comp
hensive assessment of the transportation impacts of the proposed second
phase development of the Lafayette Place project. This shall include the
following issues: (1) transportation analysis, (2) mitigation measures, and
(3) monitoring and evaluation. Since Lafayette Place II will enhance uses
the existing Lafayette Place project, mitigation measures should be proposed
for the cumulative impacts of both phases of the Lafayette Place developme

1: Transportation analysis

This section shall describe existing conditions in the project area as identified on the attached map, including the roadway network, circulation and traffic volumes, pedestrian volumes, parking supply and demand, the public transportation system, and the probable project impacts, as outlined below. In addition, this section shall evaluate on-site circulation, loading activities, and parking associated with the project.

Traffic analysis

The traffic analysis shall assess the following circulation options for the year of projected full occupancy (1990). The analysis shall evaluate these options in the combinations identified in Table 1 (attached).

The analysis should include maps and plans at 1:200 scale that clearly identify the project and study area and all proposed changes in the street network.

1. The existing traffic circulation pattern, which includes retaining Avenue de Lafayette in its present location.

2. Closing Avenue de Lafayette and redirecting traffic circulation to Hayward Place and westbound Avery Street.

3. Extending the Washington Street pedestrian mall and the resulting impact on Temple, West, and Tremont Streets.

4. Widening Essex Street for two-way traffic from Avenue de Lafayette to Atlantic Avenue.

The traffic analysis should address the following issues.

1. Existing conditions

2. Background traffic growth between 1987 and 1990

3. Trip Generation

   a. Project-related vehicular trips (daily and peak-hour) and distribution on the road network. For each project use (e.g. office, retail) analyze work trips and non-work trips.

   b. Modal split and vehicle occupancy analysis.

4. Vehicular traffic

   a. Changes in the local street network as a result of the project, e.g. reversal of Avery Street.

   b. Traffic impacts on the local and regional street system and intersections in the study area (identified on attached map), including volume, capacity, delay, and level-of-service analysis.

   c. Conduct the level-of-service analysis according to the methodology defined in the 1985 Highway Capacity Manual.

5. Public transportation

   a. Location and availability of public transportation facilities.

   b. Demand and capacity of system in the study year for each mode (daily and peak-hour).

6. Pedestrian circulation

   a. Area-wide origin and destination study of pedestrian traffic in site area. Include "desire lines" for access through, within, and around site.

   b. Demand and capacity analysis on project area sidewalks (daily and peak hours).

   c. Connections to public transportation stations and stops.

   d. Twenty-four hour pedestrian connections between Washington and Chauncy Streets along Avenue de Lafayette and through existing Lafayette Place project. Provide detail on public easements through and within site. Describe provisions for security and safety.

7. On-site circulation

   a. Site plan showing proposed entrances, exits, and circulation patterns for pedestrians and vehicles.

   b. Location of handicapped access.

   c. Taxi drop-off and pick-up areas.

   d. Areas of possible pedestrian-vehicle conflict.

   e. Requested curb cuts and/or sidewalk changes.

8. Loading

   a. Anticipated delivery volume and schedule.

   b. Number, location, and dimensions of docks.

   c. Size and maneuvering space on-site or in public right-of-way.

   d. Proposal for shared loading ramp on Hayward Place.

Parking analysis

Describe the parking management plan for this project, including the following.

1. Parking supply and demand

   a. Existing areawide parking supply.

   b. Proposal's impact on demand for parking among different user groups (demand/supply analysis).

   c. Number of spaces provided, indicating public and private spaces as well as allocation among different project uses (e.g. office, retail).

   d. Impact of displacement of current parking on site.

   e. Evidence of compliance with City of Boston parking freeze requirements.

2. Parking plan

   a. Site plan showing layout, ramps, vehicle and pedestrian access, location of entrance gate, and size of parking spaces.

b. Describe parking plan (e.g. valet, self-park with manned booth, mechanical gate) and queuing capacity.

2: Mitigation measures

1. Measures to manage parking demand and optimize use of available parking spaces, including:

- o Proposed rate structure(s)
- o Ride-sharing incentives and information dissemination
- o Reserved spaces for high-occupancy vehicles: number and location
- o Reserved spaces for off-peak parkers (spaces to open at 9:30 or 10:00 a.m.)

2. Measures to encourage mass transportation use, including:

- o Mass transit information dissemination
- o MBTA pass sales and subsidies
- o Provision of a bus shuttle between the hotel and Logan Airport
- o Direct station links or pedestrian connections

3. Measures to promote ride-sharing, including:

- o Participation in public ride-sharing program.
- o Ride-sharing incentives and information dissemination
- o Reserved spaces for high-occupancy vehicles: number and location

3. Measures to reduce peaking, including:

- o Flexible work hours
- o Schedules for service and goods deliveries

3: Monitoring and reporting measures

Annual monitoring reports will be required detailing the performance of the project against stated goals and projections of trip generation, modal split, vehicle occupancy and peak hour percentage. Verification will also be required of the execution of mitigation measures described in the Access Plan. The Access Plan should outline commitments to monitor these factors through vehicle counts and employee surveys.

4: Construction management plan

The Transportation Department, in cooperation with the Inspectional Services Department, requires a Construction Management Plan for major projects. This plan will develop in detail a plan to minimize the construction impacts of the project.

The transportation access plan should identify the issues that the construction management plan will focus on, including the following:

- Proposed truck routes and schedules.
- Anticipated use of public ways.
- Pedestrian access and safety.
- Storage of materials and equipment.
- Number of construction workers and mode of arrival.

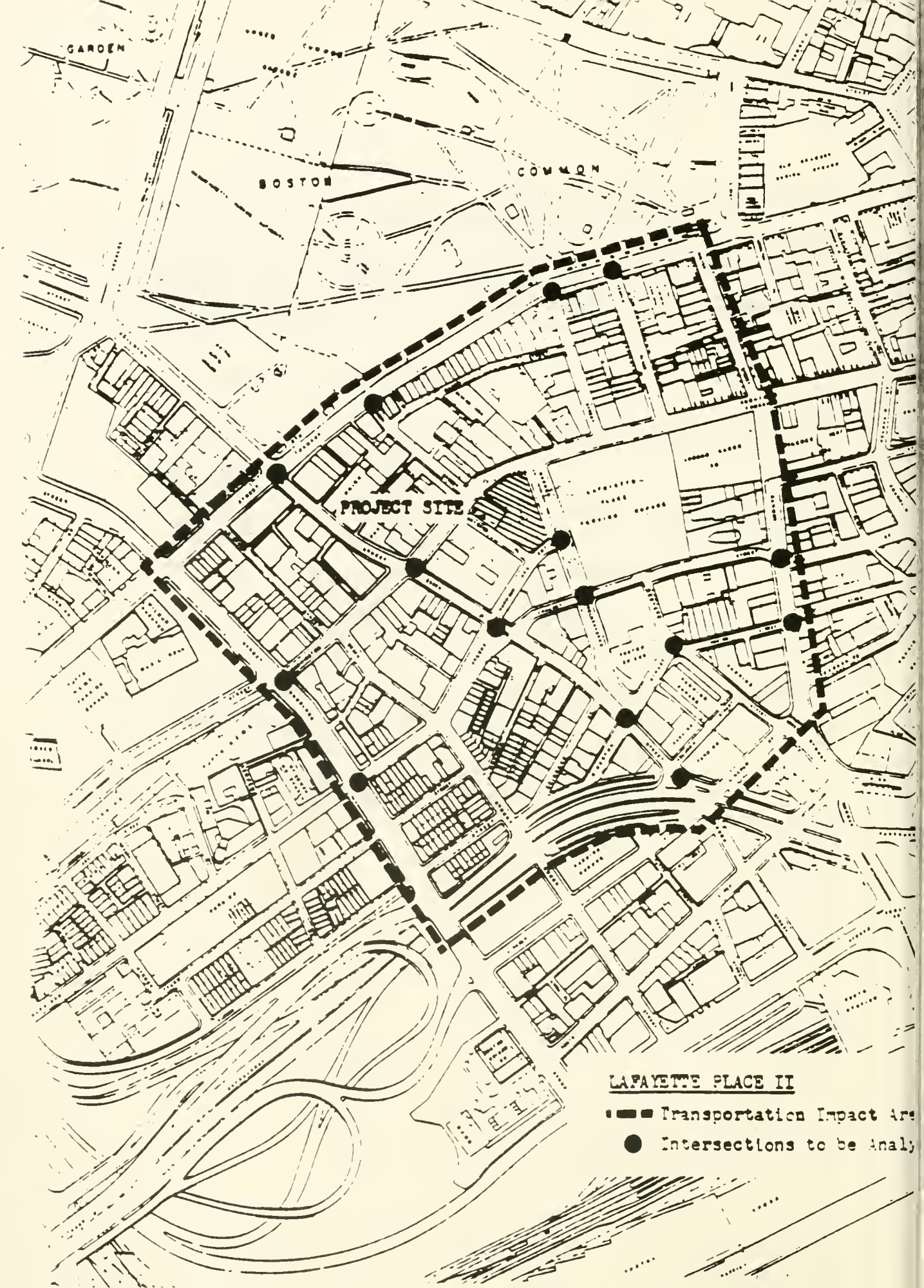
In addition, the access plan should propose measures to mitigate these construction impacts, such as the following:

- Time and routes of truck movements
- Storage of materials and equipment
- Worker parking and commuting plan

TABLE 1

PROJECT SCENARIOS

Scenario	Close Avenue de Lafayette	Extend Pedestrian Zone	Widen Essex Street
1	No	No	No
2	No	No	Yes
3	No	Yes	No
4	No	Yes	Yes
5	Yes	No	No
6	Yes	No	Yes
7	Yes	Yes	No
8	Yes	Yes	Yes


GARDEN
BOSTON
COMMON
PROJECT SITE
LAFAYETTE PLACE II
Transportation Impact Are
Intersections to be Analy

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

Telephone:
(617) 242-6000

ard of Directors
mes S. Hoyte, Chairman
ul N. Anderson
nn J. Carroll
bert J. Colek
rraine M. Downey
thony V. Fletcher
arles Lyons
muel G. Mygatt
rgaret A. Riley
lter J. Ryan, Jr.
nathan Z. Souweine
ecutive Director
. F. Levy

February 16, 1988

RECEIVED
FEB 16 1988
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

James S. Hoyte, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA Unit

RE: Environmental Monitor - January 27, 1988

Dear Secretary Hoyte:

We submit the following comments concerning the Environmental Notification Forms appearing in the January 27th Environmental Monitor:

1. EOEA No. 6918 - One Winnisimmet Street, Chelsea - Nancy Baker
   As an MWRA interceptor is in the vicinity of the proposed project, the proponent must provide a more detailed site plan.

2. EOEA No. 6928 - Traffic Impr. Quincy Center, Quincy - Dick Foster
   As part of the Traffic Improvement Program, seven streets are proposed to be reconstructed. Since there are MWRA interceptors in the vicinity of those streets, a more detailed site plan will be required.

3. EOEA No. 6929 - Lafayette Place Phase II, Boston - Nancy Baker
   The proponent has stated that "all storm and sanitary wastewater generated by the project will be directed to the 18" combined sewers on Hayward Place and Harrison Avenue."

   No storm drainage should be directed into the sewer. A separate connection to a storm drain should be made. If there is no storm drain in the immediate vicinity, the proponent should plan to construct an extension to the nearest storm drain. [Coordinate with BW & SC.]

The proponent states that there will be an addition 110,000 gpd cooling water demand during the summ months. Will any of the cooling water be discharged the receiving sewer?

We appreciate the opportunity to comment. Should you ha any questions, please do not hesitate to call me at 242-02 (X4328).

Very truly yours,

Katina N. Belezos,
Project Engineer
Technical Support Branch
Engineering Division

KB/mb:EM-49

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

FILE COPY
1-3-89
B

December 30, 1988

Carl Geupel
Project Manager
Campeau, Massachusetts, Inc.
Suite 3-300
One Avenue De Lafayette
Boston, Ma 02111

RE: Notice of Project Change, EOEA # 6929,
Lafayette Place - Phase II Project

Dear Mr. Geupel,

I have elicited public comments and reviewed your Notice of Project Change for the Lafayette Place _ Phase II project. According to your letter, the proposal now consists of about 1,926,000 square feet of retail and office space. The building height has been increased by about 137 feet to 465 feet, and parking has been increased to 700-1000 spaces.

As noted in the comment received from the Boston Redevelopment Authority, an amended scope for the Environmental Impact Report and Project Impact Report should be issued jointly to facilitate a coordinated review. Accordingly, when the BRA scope is made available for review, the MEPA Unit will consider any needed revisions to its original scope, dated February 26, 1988.

Thank you for keeping us apprised as the Lafayette Place project progresses.

Sincerely,

Steven C. Davis
Assistant Secretary
Environmental Impact Review

cc:
Nancy Pinendo, BRA
Richard Mertens, BRA

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
617 722 4300

RECEIVED
NOV 22 1988
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

11.21.88

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attn: MEPA Unit

Re: EOEA #6929: Boston Crossing Project

Dear Secretary Hoyte:

The Boston Redevelopment Authority would like to submit the following comments with regard to the Notice of Project Change for the Lafayette Place - Phase II project, now known as "Boston Crossing", which was filed with your office by Campeau Massachusetts, Inc., on October 21, 1988.

The Boston Crossing project involves a mixed-use development program which includes the replacement of the existing Jordan Marsh store at Summer and Washington Streets with a new six-story retail facility and the construction of a 750,000 square foot office structure at Summer and Chauncy Streets, the complete reconstruction of the existing Lafayette Place shopping mall, the construction of a five-story department store with a 465-foot office tower on the Hayward Place portion of the site, and the addition of 700-1,000 below-grade parking spaces which will be connected to the existing Lafayette Place garage. This project represents a major increase in total floor area, building height, and number of parking spaces from the previously-proposed Lafayette Place - Phase II project.

On October 4, 1988, Campeau Massachusetts, Inc. filed a Project Notification Form with the Boston Redevelopment Authority pursuant to Article 31 of the Boston Zoning Code. In compliance with the development review procedures of Article 31, the project proponent will be required to file a Project Impact Report with the Authority. At the present time the staff of the Authority is preparing the scope of this report. We anticipate that the scope of issues to be evaluated in the Project Impact Report for Boston

Crossing will be similar to that issued previously for the Lafayette Place II proposal and will include a transportation impact section (which will include a Transportation Access Plan), an environmental protection component examining issues of wind and shadow impact, daylight analysis, air quality and noise impacts, solid and hazardous wastes, geotechnical and construction impacts, and rodent control, urban design and historic resources sections, and an infrastructure systems component evaluating impacts on utility systems, water quality, and energy resources. When issued, a copy of the scoping determination will be forwarded to your office.

Since this project is subject to the environmental review requirements of both MEPA and the Boston Redevelopment Authority, Section 31.13 of Article 31 of the Zoning Code provides for a coordinated review and the submission of a single set of documents to satisfy the requirements of MEPA and Article 31. We concur that a joint review would be appropriate for this project and request that a joint scope for both the Draft EIR and the Draft PIR be issued.

Sincerely,

Paul Reavis
Assistant Director for
Engineering and Design Services

cc: Carl Geupel
Campeau Massachusetts, Inc.

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

CHAEL S. DUKAKIS
GOVERNOR

JOHN DEVILLARS
SECRETARY

May 15, 1989

Carl Geupel
Project Manager
Campeau
Suite 3-300
One Avenue De Lafayette
Boston, MA 02111

RE: Notice of Project Change, EOEA #6929,
Lafayette Place -- Phase II

Dear Mr. Geupel,

The MEPA Unit has reviewed the Scoping Determination for the Boston Crossing project, which was issued by the BRA, dated April 11, 1989, in order to determine the extent to which that scope reflects the issues that must be addressed in the Environmental Impact Report.

It appears that there may be a number of issues that will be treated more rigorously in the City of Boston's Project Impact Report, than would be absolutely necessary in the Environmental Impact Report. Although this additional information will tend to make the EIR review more complex, the nature of the problem doesn't warrant a point-by-point rescoping, and the EIR may include extraneous information which addresses the BRA scoping determination.

In addition, the EIR should also address the following concerns:

o The BRA scope indicated that the total square feet of the project is 3,365,000; whereas, the Project Change Notice indicated that the total project was 1,926,000 square feet. Further, the BRA scope set the parking at 1700 - 2000 spaces; whereas, the Project Change Notice indicated that parking would range from 700 - 1000 spaces.

o The analysis of project impacts on the Orange and Green Line MBTA facilities should evaluate the transit impacts, relating to increased demand for service. It should also

100 CAMBRIDGE STREET BOSTON MA 02202 (617) 727-9800

evaluate the impacts associated with the proposed underground parking garage on the facilities themselves. The EIR should present plans to show the effects of the project, and also to show the proposed improvements to the Chinatown MBTA station.

o The EIR must demonstrate that the proposed parking plan is consistent with the parking freeze. Are there enough parking spaces available in the Boston Parking Freeze Bank?

o The sewer and water related issues identified in the December 2, 1989 comment from the Boston Water and Sewer Commission must also be addressed in the EIR.

Finally, since this Project Change Review has resulted in amendments to the ENF Certificate, it will be necessary to include that Certificate, dated February 26, 1988, the Project Change letter, dated December 30, 1988, and this letter with the BRA scope in the EIR.

In addition to the required distribution, copies of the report should be distributed to the MBTA, Environment Department, DEQE, Air Quality, the MWRA, and CTPS.

Sincerely,

Steven C. Davis
Assistant Secretary

SCD/NB/nb

APPENDIX P

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

MICHAEL S DUKAKIS
GOVERNOR

JOHN DEVILLARS
SECRETARY

September 15, 1989

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Boston Crossing (Lafayette Place, Phase II)
PROJECT LOCATION	: Boston
EOEA NUMBER	: 6929
PROJECT PROPONENT	: Lafayette Place Associates
DATE NOTICED IN MONITOR	: August 9, 1989

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above project adequately and properly complies with the Massachusetts Environmental Policy Act (G.L.,c.30,s61-62H) and with its implementing regulations (301 CMR 11.00).

This major retail and office project will add about 480,900 square feet of retail space, 1,449,500 square feet of office space, 67,000 square feet of day care and athletic facilities, 10,000 square feet of cultural use, and about 700 to 1000 new parking spaces.

The project site is within blocks of two other significant projects which are presently within the environmental review process. The One Lincoln Street (Kingston/Bedford/Essex, EOEA: 6132) and the Commonwealth Center Project (EOEA: 7113). Together, these three projects could add nearly five million square feet, and total new development in this area of Boston has been estimated at nearly 9 million square feet.

Alternatives Analysis

The BRA scope and comment letter to the Secretary, dated February 16, 1988. identified a build out alternative for analysis. This alternative was defined by the Article 27D, which establishes the Downtown Interim Planning Overlay District (IPOD) for the area, including this 7.46 acre site. The height and

massing controls for this area, also known as the Medium Growth Subdistrict, range from 125 feet to 155 feet in height, and 8 to 10 for Floor Area Ratios (FAR).

It was anticipated that the project alternative analyzed would meet the spirit, as well as the letter of the IPOD guidelines. In other words, this alternative should have been "reduced density" alternative that would have provided a comparative basis for comprehending project-related environmental impacts, and accordingly expand the reviewers understanding of the potential opportunities to avoid or minimize those impacts. The goal of the alternative's analysis clearly should be to provide a complete information base for agency decision-makers, in order that they may satisfy their statutory obligations under M.G.L. c.30, s.61.

In contrast, the alternative that was presented is about 200,000 square feet larger than the preferred alternative, which shows that the developer's goal of the DEIR alternative's analysis is in conflict with the state agencies objectives. While this alternative may technically meet the specifications of the Downtown IPOD, the analysis of alternatives appears to be primarily self-serving -- offering little more than a justification for the proponent's project.

Until it can be demonstrated that the impacts relating to this project can be mitigated effectively, the EIR review must also provide options which would avoid impacts to the environment. The best approach is provided through the alternatives analysis where there are meaningful differences between the development programs that are being evaluated and compared.

Historical Impacts

The Massachusetts Historical Commission has determined that the impacts associated with this project will have significant impacts on existing historical structures. The Final EIR must demonstrate that those impacts will be mitigated or avoided.

Impacts to MBTA Facilities

The response to this issue in the DEIR is too general to even understand the most basic information, such as the relationship of the MBTA property to the proposed project and associated infrastructure. Site plans, and even schematic plans to complement the text in Section 6.0 (p VIII-48), would have been helpful. Conclusions that the construction impacts associated with project construction will have minimal impact on MBTA property appear to be unsubstantiated in the report.

Given that impacts are not well described, it is not possible to judge the reasonableness of the mitigation, and in particular, the "proactive monitoring system" which has been proposed to address any problems that could arise. At a minimum, the proponent should commit to hiring personnel who will review the proposed plans and oversee construction activities in behalf of the MBTA.

Boston Parking Freeze

The Draft EIR states, "The Lafayette Place Garage Parking Freeze Permit allows 1,267 non-exempt spaces, ...". "Lafayette Place's existing garage provides approximately 1,024 spaces." This leaves a surplus of 243 spaces; however, the proposed plan is for an additional 700 to 1000 new parking spaces, and the Draft EIR makes it clear that the proponent "(i)ntends to build the maximum feasible amount of parking...".

The Final EIR must show how more than 250 spaces are feasible, in light of the limited availability of non-exempt spaces.

Moreover, the FEIR must explore the issue raised by the Conservation Law Foundation that the Boston freeze regulations are inconsistent with the federal regulations, which exempt only residential spaces and complimentary spaces.

Traffic

Traffic Report Organization

In general, this is a difficult section of the report to review, although the comparative traffic tables, IV-47 and IV-53 in the Mitigation Section are quite helpful. The report might be easier to understand if the analyses of the transit and pedestrian impacts were presented entirely separate from vehicular traffic. In addition, the following problems were encountered.

- o Inclusion of the distribution diagram, for the Revised Roadway System, within the Transportation Section of the EIR, rather than a separate document, would have been useful.

- o The DEIR states, "A more detailed mitigation analysis is included in Section 8.0 of the Transportation Component.", (p IX-1). However, the bulk of the report is significant and there are several Section 8.0s, including the Air Quality Analysis. A simple reference to a page number would have been of assistance.

Revised Roadway System

In the BRA comment letter, dated February 16, 1988, several roadway system alternatives were identified for analysis in the EIR. Apparently, several of these have been analyzed, but from the discussions in the report, it is not clear that all the roadway options identified in that letter have been studied. Accordingly, the FEIR should present a clearer description of the revised study areas with respect to the BRA correspondence.

The One Lincoln Street EIR (6132) showed that a two-way Essex Street would result in additional traffic impacts, such that a widening and controlling traffic to one-way, southbound on the Surface Artery would also be needed to improve traffic operations. This report does not appear to require similar changes to the Surface Artery. Explain.

Traffic Mitigation

It has generally been observed that the intersection improvements proposed are offset by impacts. For example, the DEIR indicates that the Traffic Relief Program (TRP) will be expanded to Boylston Street/Essex Street Corridor between Arlington Street and the Surface Artery. How effective has the Program been thus far? Observations along Cambridge Street show that vehicles will park illegally, as long as the curb-space is available. Double parking may not be as much a problem, however.

As part of the mitigation, elimination of the pedestrian signal has been proposed. Given that pedestrian activity should be encouraged as an alternative to vehicular activity, it is enigmatic that mitigation to ease vehicular problems has been proposed to the detriment of pedestrian traffic.

The Final EIR must demonstrate that the proposed pedestrian rescue island is of adequate dimensions to safely handle the peak pedestrian volumes. Most importantly, the FEIR should show that the proposed mitigation measures have been accepted by the City of Boston, in light of their associated impacts.

Impact on MBTA Transit Systems

The concerns raised in the comments from the MBTA and EOTC with respect to project related impacts, particularly during peak periods, on the existing transit system must be addressed, and appropriate mitigation must be proposed.

Need for Regional Traffic Impact Analysis

In the One Lincoln Street EIR (EOEA #6132), the traffic analysis acknowledged that a more regional approach was warranted to understand the traffic impacts on the area's major roadway network. With the review of the DEIR for Commonwealth Center project (EOEA #7113) also complete, it is apparent that such a study should be undertaken. The FEIR should discuss whether such a study is in the planning stage, and what responsibilities will be undertaken by the proponent.

Water Use

The following questions and issues should be addressed in the Final EIR:

o Why was the water use from Lafayette Hotel not included in the total water demand estimates?

o The decrease in water use for Jordan Ma sh (Table VIII-4) should be explained.

o The introductory paragraphs to the sections of the report which evaluate infrastructure state that project developments would be evaluated within the analysis. However, it does not appear that the report has considered other projects in the water supply capacity analysis, since the projects have been identified in a separate section of the DEIR. This should be corrected as necessary in the Final report.

o The mitigation proposed appears to be limited to the use of low water use plumbing fixtures. The opportunity to off-set water demand has not been considered. Leak detection and remediation is an effective measure that must be considered as part of the water demand mitigation program.

o It has been noted that the potential for impact to the MBTA facilities has received cursory attention in this section of the Draft EIR.

Sewer and Storm Drain Systems

The discussion concerning the existing and proposed storm drain system is difficult to follow. Further, the schematic plan, Figure VIII-8 does not enlighten the reviewer significantly, because existing Sanitary Sewers and Storm Drains are not distinguished clearly from those that have been proposed.

The Final EIR should explain in greater detail the relationship between the existing and proposed sewer and storm systems. Has the new storm drain system been sized to convey flows other than project-related flows? With the proposed storm system, at what point will the flows be recombined with

discharges from the CSO? Why is the parking garage drainage entering the sewer system (p. VIII-31)?

Some comments discussed in the water use section of this Certificate apply to this analysis also. Specifically, project growth within the infrastructure service area does not appear to have been evaluated as part of the future build analysis. Also, the potential for impacts to nearby MBTA facilities should be considered in greater detail.

Shadow

The shadow analysis has shown a distinct difference between the As-of-Right and the Preferred Alternative. The 155 foot alternative will not result in any net new shadows on Boston Common. To the contrary, the proposed project will add new shadows to Boston Common.

Since the One Lincoln Street project and the Commonwealth Center project EIRs have also shown new shadows on the Common, the elimination or further minimization of shadows is warranted.

If the shadow impacts associated with these projects goes unchecked, it is unclear how Boston Common can be safeguarded from the effects of other new shadows, resulting from future developments.

September 15, 1989
DATE

James P. Gomez, Undersecretary for
John DeVillars, Secretary

Comments received :

6/21/89 CLF

9/12/89	MBTA
9/5 89	MAPC
9/1? 89	EOTC
9/8/89	Tremont on-the-Common
6/23/89	MHC
9/8/89	DEP. DAOC
8/15/89	FAA
9/6/89	MWRA
9/8/89	City of Boston. The Environment Department

JD/NB/nb

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

Thomas P. Glynn
General Manager
Transportation Building
Ten Park Plaza
Boston, Massachusetts 02116

September 14, 1989

RECEIVED
SEP 1 4 1989
MEPA

John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, Massachusetts

Attention: MEPA Unit

RE: EOEA File No. 6929
Draft EIR
Boston Crossing

Dear Secretary DeVillars:

The Massachusetts Bay Transportation Authority (MBTA) has reviewed the Draft Environmental Impact Report (DEIR) for the Boston Crossing Project submitted by Campeau Massachusetts, Inc. The MBTA is optimistic that this review will provide a valuable asset in the effort to complete the environmental review process and is enthusiastic in its commitment to work cooperatively with the Developer. In addition, we are pleased to state that the MBTA and Campeau have developed a close working relationship. This relationship has produced the promise of a satisfactory outcome of all issues that the two organizations have identified.

After careful review of the DEIR, the MBTA offers the following comments:

1. It is important to recognize the size of the proposed action and to take in to account the broader view of nearby associated activities.

   With respect to the MBTA's interests, the Boston Crossing Project will produce a demand for approximately 45,000 daily trips more than 5,000 in the peak hour. Given the location of the proposed project, it is reasonable (subject to the discussion of parking in item 3 below) to expect half the daily trips and 3,000 of the 5,000 peak hour trips taking place by transit.

   While the MBTA's interest is to increase ridership, one particular concern we have is our ability to accommodate additional peak hour riders. In fact, the MBTA will soon begin a campaign to encourage staggered work hours in order to make better use of existing capacity.

Beyond the view of the Boston Crossing Project, the MBTA recognizes that this Project is one of a number of proposed projects which together comprise the new Midtown District. Again, the MBTA understands the public goals of the City and the Boston Redevelopment Authority in pursuing the development of the Midtown. However, the effect of the Midtown development will be to significantly increase downtown MBTA ridership, again focused around peak period use. The MBTA's understanding of the magnitude of the Midtown District activity is that it will likely produce more than 100,000 daily trips with more than 15,000 or more trips focusing on the peak hour.

The densities and uses proposed by the developers and the ability of those developers to invest and gain an economic return is, in part, made possible by the reliance on the MBTA's infrastructure.

2. One measure of action that the MBTA is undertaking is that of staggered work hours. By formalizing staggered work shifts the MBTA can ensure more effective use of its capacity. The MBTA recommends that the proponent submit a staggered work hour strategy to the MBTA and include such a proposal in the Final Environmental Impact Report (FEIR) for public review.

3. A second measure of action that the MBTA is taking is the forthcoming South Boston Piers Transit DEIR. The DEIR's initial and still primary focus is on the South Boston Piers area. However, through the planning activities of developers and public agencies, it became clear that the Midtown area represented an important consideration in the development of additional transit capacity. The MBTA's preferred alternative, the Underground Transitway has been chosen, in part, because it is an alternative which provides long term additional capacity to support the proposed action and other Midtown District activities.

The MBTA has previously notified all parties that its ability to implement this transit improvement is contingent upon the ability to develop a public-private partnership to pay for transit. In particular, the MBTA is seeking developer financial participation as part of the funding plan for the Transitway. Our rationale for developer involvement is that they will experience a real benefit from transit and that limited federal funding opportunities are most likely with private sector involvement.

While the MBTA has not yet brought the issue of who should pay to closure, we are attempting to ensure maximum developer cooperation until a financial plan is created.

4. The Transitway proposal includes a subsurface connection between South Station and Boylston Station via either Essex Street or Avery Street, Hayward Place and Avenue de Lafayette. The Avery Street alignment has several advantages, including a superior connection at Boylston Station; station locations at the center of the Midtown development; and the removal of construction disruption from Essex Street -- a major arterial at the edge of Chinatown. In order to implement the Avery Street alignment, the MBTA has committed significant staff and consultant resources to the investigation of the feasibility of a joint construction program with the Boston Crossing Project.

   We are pleased to report that we have reached conceptual agreement on the Transitway issue with Campeau Corporation on design and construction activities under Hayward Place. Campeau and the MBTA have agreed that their slurry wall proposed along the northside of Hayward Place will be located underneath the Bloomingdale's building line. The design of this slurry wall will also allow the MBTA to later use this wall as an outside wall of its proposed Midtown Station.

   It is hoped that formal and final agreement on this issue can be achieved for publication in the FEIR.

5. The MBTA continues to work with developers on the MBTA's needs at the corner of Hayward Place and Washington Street. Campeau proposed to dislocate the MBTA's present permanent easement to allow for a major facility entrance. The MBTA and Campeau have not yet agreed on a new location for the MBTA's needs in that area which include:

   * an emergency exit for Chinatown Station
   * present and proposed subway ventilation requirements
   * major public entrance for the Midtown Transitway Station

References to these requirements which appear on P.-35 and VIII-48 and elsewhere need to be updated in the FEIR consistent with the Authority's needs.

6. The MBTA has developed a plan for our Downtown Crossing "Summer Street Concourse." The major abutters are Lincoln Properties and Campeau. Lincoln Properties has agreed to participate in an upgrading of the Concourse and the MBTA is seeking a similar agreement with Campeau. This issue remains unresolved.

   The DEIR references specific actions the proponent plans to take to improve existing MBTA facilities. Obviously the MBTA and Campeau must work closely to ensure design standards and needs of the MBTA.

7. P.V-146 - Par. 7.2 - Construction Staging area - Although it is mentioned in various later sections of the report, it should be noted that safe access must be maintained to all MBTA facilities at all times. The staging schemes requested close off the entrances at Chauncy and Hayward Place.

To summarize, the MBTA certainly understands and supports the City and developer objectives of the Boston Crossing Project. However, we are very much concerned about the impact of this Project and the cumulative impact of Midtown development on our infrastructure. We are pleased that at this point in the process, our expectations are that the MBTA will secure the agreements it needs to continue to upgrade existing and future services. The MBTA needs to ensure that it can provide adequate capacity over the long term. We have here identified ways for the Campeau Corporation to assist the MBTA in ensuring that capacity and look forward to any other options that might be identified.

The MBTA hopes these comments prove helpful in your review of the Boston Crossing Project and look forward to resolving these issues with you.

Should you require any additional information, please do not hesitate to contact my office.

Sincerely,

Thomas P. Glynn
General Manager

cc: P.F. McNulty
J.C. Aiello
C.B. Steward
D.J. Kidston

Metropolitan Area Planning Council
60 Temple Place, Boston, Massachusetts, 02111 • 617-451-2770
serving 101 cities and towns in Metropolitan Boston

September 5, 1989

RECEIVED
SEP 11 1989
MEPA

The Honorable John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA Unit

RE: Boston Crossing
Draft Project and Environmental Impact Report
EOEA 6929

Dear Secretary DeVillars:

In accordance with the provisions of Chapter 30, Section 62 of the Massachusetts General Laws, the Council has reviewed the above Draft Environmental Impact Report.

The proposed project will add 1.8 million gross square feet (gsf) to the area now occupied by Jordan Marsh, Lafayette Place and the Lafayette Hotel. The scale of this project is expected to have significant impact on downtown retailing. Overall, the proposal of 3,365,000 gsf more than doubles the existing 1.5 million gsf. An as-of-right build-out would total nearly 3.6 million gsf. The proposed project will have an Floor:Area Ratio of 10.36 compared to 4.95 which now exists on a smaller site area. The development program will add 1.45 million gsf of office space and 325,500 gsf in additional retail as well as a gallery/museum, an athletic club and child care space totaling 77,000 gsf. The basic plans call for rebuilding Jordan Marsh, constructing a new retail mall in place of the failing Lafayette Place Retail Center, establishing a Bloomingdale's department store, two office towers and and doubling underground parking from the existing 1024 spaces to 1724-2024 spaces.

The Planning Council commends the developers and the preparers of this DEIR for an exceptionally clear discussion - aided by sketch and map figures - of potential design impacts. In addition to the urban design context, Council staff review of the Draft Environmental Impact Report concentrated on the anticipated impacts on housing, transportation and public benefits. MAPC comments follow in a sequential order referring to the sections as they appear in the text of the DEIR.

Section II - 5: Public Benefits

The development will generate an additional 9200 permanent jobs over existing employment levels and over $11 million in additional annual property taxes.

nk E. Baxter, *President* Franklin G. Ching, *Vice-President* Marjorie A. Davis, *Secretary* Martha K. Gjesteby, *Treasurer*
Executive Director David C. Soule

Housing and job linkage programs are vital components of the public benefit package to be generated by this development. The Planning Council is pleased to acknowledge the outreach and partnership efforts of the developer with community based development agencies as well as the collaboration with the Boston Redevelopment Authority. The developer states a goal of creating 500 housing units in the Chinatown community. Discussion in the DEIR, pages II-10 - 11, however, discuss using housing linkage funds in conjunction with the development of 250 units on Parcel R-3/R-3A and financing a community facility, leaving an apparent shortfall of 250 units.

The Planning Council strongly supports the creation of a Retail Jobs Academy. The developer proposes to begin the Academy through a portion of it Jobs Contribution Grant. However, there is no provision for financing continuing operations. The Council proposes that retailers pay into an operations fund based on leased square feet to be matched and administered by the developer.

The Council anticipates that Jordan Marsh and Bloomingdale's have elaborate employment "flow charts" as befitting large department stores. In addition, many smaller retailers locating in the specialty mall will offer manager/assistant manager positions as well as opportunities associated with purchasing and administration for retail chains. Academy training promises to provide upwardly mobile career ladders within the new complex and within the regional/national chains that will locate in the development. Above providing initial training, MAPC hopes the Academy will be used to provide ongoing education for people assuming retail jobs, including post-hiring educational opportunities and career tracking, so that employment does not become stratified among professionals commuting from the suburbs and city residents holding dead end jobs.

Approximately 12,000 gsf will be developed for child-care. The developer did not give a target client (number of children) population. Also, it is not stated if the proposed facilities are to be "for-profit" or "non-profit." The Planning Council hopes that cost of child-care will be affordable to the employees of the new retail complex. MAPC agrees with the proponent that it is important to make the slots affordable, and urges the establishment of sliding scale fees or across the the board subsidies. Child-care that is not affordable to the full-time entry level employees at Boston Crossing should not be considered a public benefit.

Section IV: Transportation

The Council is troubled by the proposal to expand parking on the development site by a net increase of 575-875 spaces. The nature of retail shopping at Bloomingdale's and Jordan Marsh may cause a significant increase in already unpleasant traffic congestion when the new parking becomes available. The increased congestion will effect both pedestrians near Downtown Crossing, nearby office workers as well as other motorists. Effects of the increased vehicle traffic will be exacerbated street noise, air pollution and an increased potential for traffic accidents. Although MAPC is wary of any additional parking, the negative impacts can be eased somewhat if these spaces are assigned to firms in the office towers and not open to the general public.

Boston Crossing rightly relies extensively on the public transit system to accommodate the impacts of the development project. The increase of 2000 peak hour transit trips may have a dramatic impact on demand for fringe parking. MAPC would like to encourage the project proponent to work with our agency and others to develop strategies that will encourage communities to hose additional fringe parking facilities.

MAPC staff believes that additional effort can be made by the proponent to encourage visitors to the shopping center to use public transit if it were to provide customers, making a minimum purchase, with subway tokens for the trip home. Such systems have been implemented in commercial areas in other states with success in reducing demand for parking and automobile travel.

Thank you for the opportunity to review and comment on this Draft Environmental Impact Report.

Sincerely,

David C. Soule
Executive Director

cc: Rick Dimino, MAPC Rep., Boston
Paul Reavis, BRA
Campeau Massachusetts, Inc.
HMM Associates, Inc.
Steven Landau, MAPC Staff
Dan Fortier, MAPC Staff

The Commonwealth of Massachusetts
Executive Office of Transportation & Construction
Office of the Secretary
10 Park Plaza, Room 3510
Boston, MA 02116-3969
Telephone 973-7000
TTY (617) 973-7306

Michael S. Dukakis
Governor
Frederick P. Salvucci
Secretary
and
M.B.T.A. Chairman

RECEIVED
SEP 15 1989
MEPA

( ) E.N.F. (X) DRAFT E.I.R. ( ) FINAL E.I.R. No. 6929

DATE: 08-08-89 DATE RECEIVED: 08-08-89 COMMENTS DUE :

TOWN/CITY: BOSTON, MASSACHUSETTS

PROJECT PROPONENT: CAMPEAU MASSACHUSETTS, INC.
ONE AVENUE DE LAFAYETTE
BOSTON, MASSACHUSETTS

PROJECT DESCRIPTION: BOSTON CROSSING, BOUNDED BY WASHINGTON STREET, SUMMER STREET, CHAUNCY STREET, AVENUE de LAFAYETTE, HARRISON AVENUE EXT AND HAYWARD PLACE, BOSTON, MASSACHUSETTS. The proposed project will add approximately 1,449,500 S.F. of new office space, 325,500 S.F. of new retail (155,400 S.F. currently vacant at Lafayette Place Mall will also be included in the analysis for a total of 480,900 S.F. of addition retail space), 67,000 S.F. of new child care and athletic club facilities and 10,000 S.F. of cultural uses. The existing Layafette Hotel located on the site will remain. In addition, there will be parking provided for approximately 1,024 vehicles in an under ground parking garage and a surface parking lot.

(✓) COMMENTS (SEE ATTACHED) ( ) NO COMMENTS

DATE: 9/13/89

FREDERICK P. SALVUCCI

The Commonwealth of Massachusetts
Executive Office of Transportation & Construction
Office of the Secretary
10 Park Plaza, Room 3510
Boston, MA 02116-3969
Telephone 973-7000
TDD (617) 973-7306

Michael S. Dukakis
Governor
Frederick P. Salvucci
Secretary
and
MBTA Chairman

RECEIVED
SEP 15 1989
MEPA

EOTC Comments on the DEIR for Boston Crossing
Boston, MA
EOEA # 6929

The Executive Office of Transportation and Construction has reviewed the DEIR for the proposed Boston Crossing Development. This project when completed will consist of 1,926,000 s.f. of new development space. The project site is bounded by Washington Street, Summer Street, Chauncy Street, and Hayward Place. Both office and retail is proposed for this project in addition to athletic, child care and cultural facilities.

This project is an extremely large development in the Midtown District of Boston. Due to its ideal location, a significant number of tenants and employees of the development are expected to use the MBTA rapid transit system. This area is also well served by MBTA buses. EOTC is hopeful that with the proper mitigation commitments, tenants, employees and clients will take full advantage of the transportation system in order to reduce vehicle trips in this area. To mitigate the significant increase in passengers that are expected to use the MBTA transportation system as a result of this project, the proponent has been in contact with the MBTA and is continuing to work with the MBTA in this regard. Passegeways to the MBTA Orange, Red, and Green Line directly abutt the development site.

As the proponent is aware, the MBTA has completed and is still in the process of completing several improvements to the rapid transit system. One of the major improvements currently being studied by the MBTA is the construction of an Underground Transitway. This system is proposed to connect the Midtown District with the Fort Point Channel area and is proposed to be located directly adjacent to the Boston Crossing project. EOTC is pleased to see that the proponent has been in contact with the MBTA in an effort to properly coordinate the Boston Crossing project with MBTA proposed improvements.

Improvements proposed by the proponent in the DEIR include: 1) coordinating the location of the slurry wall with the proposed MBTA Underground Transitway tunnel, 2) providing connections to the proposed Underground Transitway and to the MBTA rapid transit system at the Hayward Street/Washington Street intersection, and 3) maintaining direct connections to the MBTA system at the Chauncy Street/Summer Street intersection. The proponent is also working with the MBTA on the Washington Street Concourse rehabilitation project.

The proponent has met with the MBTA regarding the location of the slurry wall, proposed along the northside of Hayward Place. Both parties have agreed to locate the slurry wall underneath Bloomingdale's proposed building line. Documentation outlining this agreement and future use of the slurry wall for the proposed Underground Transitway should be included in the FEIR. A plan displaying the proposed location of all improvements that are adjacent to Hayward Place should also be included in the FEIR.

The proponent proposes to maintain direct connections to the Red Line at the Chauncy Street/Summer intersection. Improvements at this location should be discussed in greater detail in the FEIR. The proponent is advised that safe access must be maintained at this station and all other MBTA stations located adjacent to the Boston Crossing Crossing project.

The MBTA currently has a permanent easement at the Hayward Street/Washington Street intersection. This easement connects to the Orange Line and is currently used as an emergency exit. This easement also allows for ventilation for the transit system. As part of the Boston Crossing project, the proponent is proposing to work with the MBTA to relocate this easement and provide for a new entrance to the transit system and for future pedestrian connections to the proposed Underground Transitway. These improvements must be discussed in greater detail in the FEIR.

In the level of service analysis, the proponent analyzed several intersections and described mitigation for many of these intersections. According to the DEIR, the City of Boston will complete some of the improvements described under the Traffic Relief Program (TRP). However, it is unclear who will complete the remaining intersection improvements described in the DEIR. The proponent should include a chart in the FEIR which summarizes the level of service with improvements for each of the intersections, completion date for mitigation at each of the intersections, and party responsible for completing mitigation improvements.

More important, as a result of the traffic conditions that currently exist in downtown Boston, the proponent of the Boston Crossing project should carefully examine pedestrian circulation to minimize pedestrian and vehicular conflicts along Washington Street, Chauncy Street, Avery Street, Hayward Street and other neighboring streets. Recommended improvements should be described and outlined in this regard in the FEIR.

In an effort to reduce the number of vehicles to the site, the proponent describes Transportation Demand Management Strategies. The proponent proposes to provide on-site locations for MBTA transit and bus pass sales, encourage tenants to subsidize a portion of employees public transportation costs, make public transportation schedules available on site, and promote public transportation availability in retail advertising and the marketing of office space. The proponent should discuss in greater detail proposed options that will be recommended for transportation subsidies and discuss what efforts will be made by the proponent to encourage implementation of these transportation subsidy programs. The proponent should work closely with prospective tenants to insure that a program for employee transportation subsidies and transportation schedules are in place upon tenant opening. Locations for pass sales should also be in place upon project completion.

We understand that most of the parking proposed for this development will be for shoppers. We commend the proponent in its efforts to minimize vehicle trips by tenants and employees in peak commuting hours by providing parking primarily for shoppers and by proposing methods that would encourage tenants and employees to utilze other methods of transportation to the site.

For those parking spaces that will be preserved for tenants and employees, the proponent should state the number of spaces that will be allocated for carpools, vanpools, and buspools and describe the mechanism for how employees will be charged and thus be encouraged to carpool or use alternative transportation modes under the proposed rate structuring.

Given the size of this project, the proponent should commit to hiring or designating a transportion coordinator that will work prior to and after tenants have moved into the development. The transportation coordinator should work with existing and prospective tenants to oversee these programs to insure that the use of these programs will be fully maximized as opposed to each tenant instituting its own program.

As noted in MBTA comments, the MBTA is in the process of implementing a campaign to encourage staggered work hours in an effort to maximize the use of the existing demand on the transit system during non-peak commuter periods. A staggered work hour plan should be included as mitigation for this project and documented in the FEIR along with a discussion on how tenants and employees will be encouraged to support and implement such a program.

As additional mitigation, the proponent should expand the proposed transportation demand strategies to include tenants and employees of the existing Lafayette Place Phase I development. The proponent should further expand these transportation demand strategies to include both existing and currently proposed retail developments in the Midtown District.

Other development projects in the area include Commonwealth Center and Kingston-Bedford developments. The proponent should work with these and other neighboring developers in regard to mitigation and transportation demand measures. It is important that the proponent devise a forum in which it can work with tenants and employees of the Lafayette Place Phase I development and other existing and proposed developers to encourage them to better utilize the MBTA transportation system.

Prior to filing the FEIR, the proponent of the Boston Crossing project and neighboring developers should collectively discuss the possibility of forming a Tranportation Management Organization. A full discussion in this regard should be included in the FEIR. In addition, mitigation for each of the development projects should be properly coordinated.

The proponent of the Commonwealth Center project is proposing a shuttle service from their site to Logan Airport. The proponent for Boston Crossing development should join with the proponent of the Commonwealth Center project in this regard to maximize the use of this service. The proponent should also encourage other hotels and interested developers to join in this program. This will serve as a great asset to tenants, employees, and building clients of developments in the area and will also serve as an alternative mode of transportion which will assist in reducing vehicle trips.

Finally, the proponent should discuss how the proposed and existing parking spaces fit under the current City of Boston Parking Freeze. Under the existing freeze, if these spaces are subject to hourly or daily charges then they would be included in the freeze and be subject to approval from the Air Pollution Control Commission of the City of Boston. A letter of determination from the City of Boston should accompany the FEIR as well as a table in the FEIR detailing which parking spaces are exempt and which are non-exempt.
9/8/89

TREMONT
ON-THE-COMMON

CONDOMINIUM • 151 TREMONT STREET • BOSTON, MASSACHUSETTS 02111 • 423-7000

RECEIVED
SEP 21 1989
MEPA

September 8, 1989

John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street - 20th floor
Boston, MA -02202-

Re: EOEA #6929
Boston Crossing
Draft Project and Environmental Impact Report

Dear Sir,

Tremont-on-the-Common ("TOC") is a high rise residential condominium located at 151 Tremont Street adjacent to the Boston Crossing project. The building consists of 374 units occupied by approximately 750 residents.

The Trustees, representatives of the TOC community, have had an opportunity to review the draft Environmental Impact Report and have the following major concerns regarding traffic:

* The report does not address the traffic congestion on Mason and West Streets. Both streets are crucial in providing twenty-four hour access to the building. The added congestion will compromise emergency services and cause further deterioration of air quality in the area.

* The LOS is reduced at Tremont and Avery Streets and Tremont and Boylston Streets resulting in significant delays for residents and for emergency services and vehicles.

* The proposed solution of extending the Washington Street pedestrian zone to block vehicular access to West Street will have considerable environmental impact. This proposal will require TOC residents to travel on Boylston, Charles, Beacon, Park and Tremont Streets - journey which can take as long as forty minutes during congested time periods. This will, or course, contribute substantially to the area's air quality problems.

* The West Street sidewalks are inadequate for the level of increased pedestrian traffic expected.

Finally, we believe that the report does not sufficiently address the impact of shadows on the city side half of our building.

We respectfully request that you take these issues under consideration when reviewing this project and in requesting mitigation measures.

Sincerely,

Carol Thomas
Chairman
Tremont-on-the-Common
Condominium Trust

June 23, 1989

Carl Geupel
Campeau Massachusetts Inc.
One Avenue de Lafayetee
Boston, MA 02111

RE: Boston Crossing, Boston, MA

Dear Mr. Geupel:

Staff of the Massachusetts Historical Commission has reviewed the Project Notification Form and additional materials you submitted regarding the proposed project referenced above. The Boston Crossing project is located adjacent to or near multiple historic resources which are adequately identified in the Draft Project Impact Report submitted by the project proponent to the Boston Redevelopment Authority.

Following a review of these materials and after informational meetings with the project proponent, I have determined that the proposed project will have an adverse affect on the significant architectural and historical characteristics of the State and National Register districts through the introduction of visual elements that are out of character with the historic districts and their setting (36 CFR 800.9). MHC staff are concerned with the project's overall large scale and height, its design (massing, materials, and detailing) in relation to adjacent historic resources, and the effect of the two towers in casting shadows and in creating a "canyonization" of the historic Summer Street commercial corridor. The shadow issue is of special concern in regard to Boston Common, a National Historic Landmark. MHC staff request the opportunity to review more detailed plans for the project and to review the Boston Redevelopment Authority project model with a representative of the Boston Landmarks Commission in order to explore design solutions that might mitigate the project's impact on historic resources.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800) and M.G.L. c. 9, ss.26-27C, as amended by c. 254 of the Acts of 1988 (950 CMR 71.00).

If you have any questions, please feel free to contact Allen Johnson or Herb Regal of this office.

Sincerely,

Valerie A. Talmage
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

VAT/ls

cc: Boston Landmarks Commission
Boston Preservation Alliance
Boston Redevelopment Authority
Advisory Council on Historic Preservation

DANIEL S. GREENBAUM
Commissioner

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street, Boston 02108

RECEIVED
SEP 8 1989
MEPA

MEMORANDUM

TO: Secretary DeVillars, Executive Office of Environmental Affairs

ATTN: Nancy Baker - MEPA Unit

THRU: Christine Kirby - Division of Air Quality Control

FROM: Gary Idleburg - Division of Air Quality Control

DATE: September 8, 1989

SUBJECT: EOEA #6929 - Boston Crossing - Boston, Massachusetts

The Division of Air Quality Control (DAQC) has received and reviewed the Draft Environmental Impact Report. Based on this review, the DAQC offers the following comments:

1) The proponent has consulted with the DAQC to establish inputs and parameters for an air quality analysis.

2) According to the summary of air quality analysis, there are several exceedances of National Ambient Air Quality Standards (NAAQS) for carbon monoxide. After mitigation is performed for the "build phase" of the project ("Revised Network"), two exceedances of NAAQS remain, at the intersections of Washington/Boylston Streets (8.6 ppm) and Boylston/Tremont Streets (9.6 ppm). The DAQC considers results above 8.5 to be exceedances due to the possibility of modeling variability.

3) Although it appears that the Boston Crossing project (with mitigation measures) will not aggravate existing exceedances of NAAQS, DAQC is concerned that even with very commendable efforts at mitigation, air quality exceedances still remain.

According to the 1982 State Implementation Plan (SIP), Boston, Massachusetts is considered to be in "non-attainment" status of NAAQS for carbon monoxide. Continued efforts should be made by Boston with the State and appropriate Metropolitan Planning Organizations to develop and implement Reasonable Available Control Measures in order to achieve compliance with NAAQS as soon as possible.

If you have any questions, please call Gary Idleburg at 556-1032.

CK:GI:yw
cc: James Neely - DAQC, Boston Office
DAQC, Northeast Region
Boston Redevelopment Authority

100% Recycled Paper

U.S Department
of Transportation

**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, Massachusetts 01803

AUG 15 1989

Secretary of Environmental Affairs
20th Floor
100 Cambridge Street
Boston, Massachusetts 02202

ATTN: MEPA Unit; EOEA No. 6929

Dear MEPA Reviewer:

We have reviewed the Draft Environmental Impact Report for the Boston Crossing project proposed by Campeau Massachusetts, Inc. We note that the proposed height is 438 feet and that the proponent plans to file a Notice of Proposed Construction in September. We will reserve our opinion on the aeronautical effect of the project until after we have received and studied the proposal. Thank you for the opportunity to comment.

Sincerely,

John C. Silva

John C. Silva
Environmental Program Manager

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

Telephone:
(617) 242-6000

Board of Directors
John P. DeVillars, Chairman
John J. Carroll
Robert J. Ciolek
William A. Darity
Lorraine M. Downey
Anthony V. Fletcher
Charles Lyons
Joseph A. MacRitchie
Samuel G. Mygatt
Thomas E. Reilly, Jr.
Walter J. Ryan, Jr.

Executive Director
Paul F. Levy

September 6, 1989

RECEIVED
SEP 8 1989
MEPA

John P. DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202
Attn: MEPA Unit

Re: EOEA No.6929-Boston Crossing DEIR, Boston

Dear Secretary DeVillars:

Concerning the above-referenced Draft Environmental Impact Report (DEIR) we submit the following comments:

The proposed project will significantly increase wastewater flows to the Boston and MWRA Sewer Systems, which are currently experiencing capacity problems, especially during wet weather periods.

Has the proponent conducted an hydraulic analysis to determine whether or not sufficient capacity exists in the local receiving sewer to accommodate this project's flows along with other tributary flows? Is the receiving sewer part of a combined sewer system? If so, does the proponent have a proposal regarding combined sewer separation? At a minimum, sanitary and storm flows from the proposed project should be conveyed separately as far as possible.

In order to minimize the wastewater flow from this project, it is important that water saving devices and processes be incorporated into project designs. A water conservation plan for this project should include the following elements as well as any additional facility-specific water saving techniques:

- Heating and Cooling
  The building heating and air conditioning equipment should be air cooled rather than water cooled. Where water cooling is necessary the system should be closed loop.

o Sanitary Use
Restrooms should be equipped with water saving fixtures such as faucet aerators that use 2.0 gallons per minute or less and spring loaded or time valves.

o Landscaping
Landscaping should emphasize the use of water efficient plantings, and minimize turf areas.

o Kitchen/Cafeteria Areas
Kitchen and Cafeteria areas should incorporate water saving techniques and equipment.

We appreciate the opportunity to comment. Should you have any questions, please do not hesitate to call me at 242-0230 X4804.

Very truly yours,

Katina N. Belezos
Project Engineer
Planning Program
Wastewater Engineering

KNB/gmc:416

City of Boston
The Environment Department

Boston City Hall Room 805
Boston Massachusetts 02201
617-725-4416 or 725-3850

September 8, 1989

RECEIVED
SEP 8 1989
MEPA

Mr. John DeVillars, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Fl.
Boston, MA. 02202

ATTN: MEPA Unit, Nancy Baker, EOEA #6929, Boston Crossing Draft Environmental Impact Report.

Dear Secretary DeVillars:

The City of Boston Environment Department has reviewed the Boston Crossing Draft Environmental Impact Report and would like to submit the following comments:

1. In Section 3.2, it states that "the project has an ideal location with respect to public transportation." Yet, the document also predicts a relatively high vehicle usage. We would agree with the proponent that the site is well situated with respect to public transit and therefore feel that they should look at reducing the number of parking spaces in the garage. Both employees and shoppers should be strongly encouraged to take public transit, especially in light of the 8 hour CO exceedances. Specifically, work related trips should be targeted for reduction because of the predictability of the trip and the fact that it occurs during peak hours. The Boston Air Pollution Control Commission will be looking for this information when the project comes before them for a permit.

   There should be a strong commitment to have an on-site property manager to facilitate building wide ridesharing and van pooling and to assist the tenants in educating their employees and promoting the program. In the future perhaps this type of program in the Boston Crossing project and the Commonwealth Center project could be coordinated, aided by a joint computer data base, to provide even more opportunities for ride matching.

   This type of evaluation is critical to reducing local concentrations of CO and NOx and regional levels of ozone, since a major source of these pollutants in the City are caused by vehicles driven by commuters during peak hours. We must begin to reduce vehicle miles traveled by reducing the number of cars driving the long distances from the suburbs into Boston.

   In addition, a rate structure should be developed for the garage that discourages long-term parking.

3. In the information about air quality in Table V-12 there is information that looks at air quality with and without the project in 1995 and with and without traffic management measures in 1995. Although the 8 hour CO NAAQS is exceeded in three locations and some of the 1 hour peak standards are slightly below the maximum allowable levels, what happens to these numbers when this project and the traffic generated by the Commonwealth Center project are added together.

   It is clearly not the sole responsibility of this proponent to determine this and if necessary to mitigate serious exceedances, but it is something that should be considered. These two projects are near each other and are generating a large amount of traffic in an urban area that already feels the effects of elevated levels of CO and Ozone. These numbers should be generated and if there appears to be a problem, the two projects should be required to work together to reduce traffic to their projects and with the City's Transportation Department to implement the traffic management measures outlined in the documents.

3. In the description of construction hours, it states that there will be construction from 7 a.m. to 11 p.m. and sometimes on Saturday's. Work on weekdays after 6 p.m. and on Saturday's is prohibited by the City of Boston Noise Regulations without written approval from the Building Commissioner.

4. The increase in development results in higher energy use. As we know, energy use and its production are causing such problems in our environment as reduction of stratospheric ozone and the creation of ground level ozone. Therefore, I encourage the proponent to look beyond the energy code and aggressively employ energy conservation methods in this new development. Areas in which to consider conservation measures include the heating and ventilating system, and lighting. The use of freon in any of these systems should be avoided.

5. Recycling within the development is mentioned, but not detailed. There should be a commitment by the developer that recycling will be instituted to the maximum extent possible and details of this should be in the final report. We will be asking this of other developments.

6. The project proponent has conducted the initial research requested to determine the archaeological potential of the project area. It would be helpful, however, if the information presented in Section 4.0 of the Historic Resources Component could be presented in plan form.

7. Based on the shadow analysis, I feel there should be a scaled down or reconfigured alternative that eliminates any new shadow on the Boston Common.

   In addition, if Commonwealth Center is not built, then the assessment of the shadow impacts on the Common would be even greater as a result of this project. These effects should be described in the final document.

8. As mitigation for the large numbers of people that this project is bringing to the area, the proponent should evaluate the feasibility of creating or rehabilitating open space on or near the site. This would provide much needed open space for the shoppers and employees of the building as well as for Chinatown residents.

This EIR is well prepared and it appears that the proponent is prepared to mitigate many of the adverse effects of the project. I look forward to more of the same level of explanation and detail in the final report, especially with respect to the issues outlined above. I appreciate the opportunity to comment.

Sincerely,

L. M. Downey, Director

LMD/DKB

Boston Water and Sewer Commission

425 Summer Street
Boston, MA 02210-1700
617-330-9400
Fax 617-330-5167

RECEIVED
SEP 14
MEPA

September 8, 1989

Secretary John P. DeVillars
Executive Office of Environmental Affairs
100 Cambridge Street 20th Floor
Boston, MA 02202

Attention: MEPA Unit

Re: Boston Crossing
Draft Environmental Impact Report, EOEA #6929

Dear Secretary DeVillars:

The Commission has reviewed the Draft Environmental Impact Report submitted for Boston Crossing. Our specific concerns which must be addressed in the Final Environmental Impact Report follow:

1. Discuss the coordination with the Commonwealth Center and Kingston/Bedford projects concerning separation of sanitary and stormwater flows on Essex Street. Clearly define the limits of separation assumed by each project.

   Assess separation with consideration of the Massachusetts Water Resources Authority draft Combined Sewer Overflow Facilities Plan which is expected in December 1989.

3. Provide a plan showing proposed water, sewer and drain connections. Discuss how the locations of these connections mitigate the impact of this project.

4. Provide a plan showing any water, sewer or drain lines or connections to be abandoned.

5. Evaluate the reuse of steam condensate within the project or its return to the Boston Thermal Energy Corporation.

6. Evaluate fire service for the entire project using southern high service water lines.

7. Domestic service for the entire project (all phases) should be served by southern low service water lines.

8. The 12-inch high pressure fire service water main in Chauncy Street between Summer Street and Avenue De Lafayette (Figure VIII-3) should indicate a 16-inch main, not a 12-inch as shown.

9. The 12-inch low service water line must be be installed in Chauncy Street, connecting the 12-inch low service in Summer Street to the 12-inch low service line in Chauncy Street at Bedford Street.

10. A high service hydrant is requested at the intersection of Washington Street and Avenue De Lafayette to replace the hydrant eliminated by the proposed abandonment of the 12-inch high service main on Avenue De Lafayette.

Thank you for the opportunity to comment on this project.

Yours truly,

John P Sullivan Jr
JS

John P. Sullivan Jr., P.E.
Chief Engineer

JPS/PK/mo

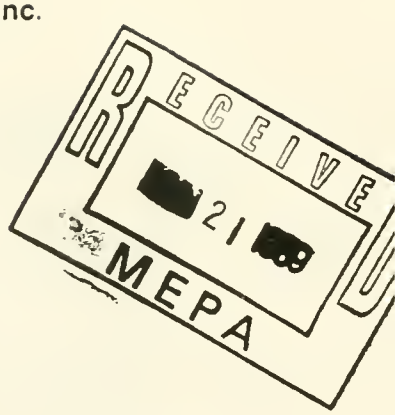
cc: Carl Geupel, Campeau Massachusetts, Inc.
Andrew Boyd, PBQ&D
Richard Mertens, BRA

CLF

Conservation Law Foundation of New England, Inc.

3 Joy Street
Boston, Massachusetts
02108-1497

(617) 742-2540
Fax: (617) 523-8019



June 21, 1989

Steve Davis
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Re: Comments of the Conservation Law Foundation on the Draft Environmental Impact Reports for the Commonwealth Center (#7113), Boston Crossing (#6929), and Kingston-Bedford-Essex Street (#6132) projects

Dear Mr. Davis,

The Conservation Law Foundation (CLF) has reviewed the above named documents and submits the following comments. We are aware that the deadlines for submission of comments with respect to these documents has passed. Nevertheless, We urge that, to the degree possible, these comments be incorporated into the environmental review for these projects. Our comments are general in nature and pertain to all three documents.

The most important observation from an environmental perspective is that all three documents lack analysis of regional transportation impacts and air quality impacts pertaining to tropospheric (ground-level) ozone, as required under the Clean Air Act.[1] Although the Boston Redevelopment Authority's project, the Kingston-Bedford-Essex Street development, fails in these regards, with respect to regional traffic impacts the Draft Environmental Impact Report (EIR) for that project states (at 17)

> [t]he evaluation of this project demonstrates the necessity for a close examination of the traffic needs in a wider area. Some type of traffic master planning action is required for the proper comprehension of the cumulative traffic needs, coordinated with the

---

[1]Massachusetts State Implementation Plan (SIP) for Ozone and Carbon Monoxide, at 195 (1982).

expectations of major planned transportation actions such as the Central Artery/Third Harbor Tunnel.

Clearly, there is recognition by the city of the need for greater attention to the cumulative regional impacts of transportation demand generated by the Kingston-Bedford project and other downtown projects -- including Commonwealth Center and Boston Crossing. Why these analyses were not required in the Secretary's Certificate on the Environmental Notification Form for each project is now moot, but these analyses should be performed for the Final EIR for each project. Without proper attention to their regional transportation impacts, the eventual success of these projects may be constrained by the increasing difficulty of reaching the downtown area, even as local traffic problems are solved.

In order to examine properly the cumulative transportation impacts of the three projects, the respective Final EIRs should examine the effects of these projects on the major commuter arteries used to reach the area. These might include, for example, the Build and No-Build Level of Service for one representative segment on Storrow Drive, the Southeast Expressway, the Central Artery, Route 1, etc.

The air quality analysis in each report is likewise deficient in that it covers only the impact of automobile emissions on the immediate area, i.e. carbon monoxide emissions. The very harmful regional air pollution impact from the emission of ozone precursors does not receive mention in any of the reports. While ozone cannot be modelled on a microscale, as wit carbon monoxide, regional-scale modelling is possible using the same techniques employed in analyzing ozone impacts of highway projects. It is necessary simply to calculate the total vehicle miles travelled to and from the projects, and apply a per mile emission factor for each type of vehicle.

One further aspect of these projects which is troubling is the number of parking spaces included. As proposed, the three projects include the net construction of 1,664-1,964 spaces (with the 400 foot tower alternative for Kingston-Bedford). The continuation of poor air quality in Boston (from ozone pollution has triggered federal requirements for greater restrictions on emission-generating activities and facilities. In the future, parking spaces in Boston will be much more tightly controlled than they are presently.

Recent legal research indicates that the Boston Air Pollution Control Commission's regulations on the downtown

Printed on Recycled Paper

parking freeze, which created the exemptions that made these projects possible, are in conflict with the federal parking freeze regulation which they theoretically apply. The federal regulation, 40 C.F.R. § 52.1135, exempts from regulation only residential spaces and spaces for which no fee is charged. There is nothing to indicate that spaces for employees or their clients are exempt.

Over the next several months, the Metropolitan Planning Organization in cooperation with the city and interested parties will submit amendments to the federal freeze regulation. Until such time as the regulation is amended, the Boston freeze regulations remain inconsistent with the federal regulation. However, whether under the present or an amended regulation, it is clear that the current practice by the city of allowing several hundred spaces for each of a multitude of projects each year will not be allowed in the future. Human health threats and the Clean Air Act make this a certainty.

As the case of the city of Cambridge illustrates[2], parking spaces which are allowed today may restrict the number which will be allowed in the future. For these reasons, we believe the number of parking spaces for Commonwealth Center and Boston Crossing should be reduced substantially. In addition, provisions for permanent, active Transportation Management Associations should be included in the Transportation Access Plan Agreements for each project. With these two measures, the modal split for office and retail uses can be enhanced on the side of transit use, and thus traffic and air quality impacts reduced. Had the documents fully documented the seriousness of regional transportation and tropospheric ozone impacts from the respective projects, perhaps greater commitment to these and other mitigation measures would be forthcoming.

In addition to regional issues, CLF is concerned about local traffic problems identified in the three reports. Inquiries from CLF to the Boston Transportation Department regarding the dispensation of transportation concerns seemed to indicate that there were many issues still outstanding with regard to all three projects. The impact reports for both projects identify

---

[2]In a recent audit of the parking freeze administered by the City of Cambridge, EPA recently determined that the city has illegally allowed the construction of thousands of new parking spaces. Negotiations are now underway to revise the city's freeze regulations, but construction of new projects in Cambridge is now very much in doubt.

Printed on Recycled Paper

several downtown intersections that will suffer from very poor Levels of Service once these projects and others are completed.

This situation again argues for substantially reduced parking allocations for both projects, or for scaling down the developments. Not surprisingly, neither of these prospects appears in the impact reports. More significantly, the mitigation measures discussed offer little or no relief. Clearly, further work is needed on the transportation circulatio issues; this should be addressed in the Final EIR for each project. The Final EIRs must demonstrate a commitment to solvin unresolved transportation issues. These issues, more than any others, will remain significant throughout the useful life of these projects.

If there are any questions concerning these comments, pleas do not hesitate to contact us.

Sincerely,

Andrew Hamilton

Andrew Hamilton
Staff Scientist

Printed on Recycled Paper

APPENDIX Q

LALIBERTE RESUME

130 BLOOR STREET WEST • TORONTO ONTARIO M5S 1N5 • 923-4662

laliberté

BORN:
Worcester, Massachusetts—November 24, 1925 of French-Canadian parents. Grew up in Montreal, where he participated in his first group exhibition at the Montreal Museum of Fine Arts in 1948.

EDUCATION:
Illinois Institute of Technology, Institute of Design, Chicago. B.S., 1951 'MS Art Education, 1954 Montreal Museum of Fine Arts Cranbrook Academy of Arts, Bloomfield, Michigan, 1952.

TEACHING:
Kansas City Art Institute, 1960-61. St. Mary's College, Notre Dame, South Bend, Indiana, 1960-62. Rhode Island School of Design, 1965. Newton College, Newton, Mass. 1967. Goddard University, Vermont, 1975. International Exhibit of Banners, Kites and Flags Seminar, Seattle, Washington, 1977. Rhode Island School of Design, Providence, R.I. 1976-77.

CURRENTLY:
In residence at his studio in Nahant, Massachusetts.

On the following pages are chronological listings of information available as of this date on the activities of NORMAN LALIBERTE in the following categories of interest:

IN COLLECTIONS:
A listing of approximately 60 museums, corporate and public collections in the United States and Canada which currently own and/or have on display work by this artist... including examples of his banners, paintings, drawings, prints and murals... from 1962 to present.

BOOKS AUTHORED:
A listing of 35 books published since 1960 and through to 1979 which carry reference to the work of Norman Laliberte, credited as author and/or designer, illustrator.

ONE-MAN EXHIBITIONS:
A listing of more than 90 representative shows featuring this artist's work in a wide range of media... from 1952-1979, in the United States and Canada.

MAGAZINE ARTICLES AND PUBLICATIONS:
A sampling of over 60 published reports on this artist's work and/or use of his work in cover articles... 1958-1979.

OTHER ACHIEVEMENTS:
A catch-all category to reflect other areas of the artists activities in visual design, film design, poster design, seminar and workshop participation, etc... 1963-1979.

ONE-MAN EXHIBITIONS:

1952 — The Detroit Institute of Arts, Detroit, Michigan (drawings and paintings)
1954 — Illinois Institute of Design, Chicago, Illinois (drawings)
1956 — Atkins-Nelson Gallery, Kansas City, Kansas (drawings and paintings)
1959 — Atkins-Nelson Gallery, Kansas City, Kansas (drawings and paintings)
1963 — Osborne Gallery, New York (craypas drawings)
1964 — Mary Washington Annual, University of Virginia (drawings)
1965 — The Waddington Galleries, Montreal (drawings and paintings)
1966 — Galerie Dresdnere, Toronto (mixed media)
The Waddington Galleries, Montreal (banners)
Shrine of the Immaculate Conception, Washington, D.C. (88 Vatican Pavilion Banners)
1967 — Robertson Gallery, Ottawa, Canada (woodcuts, prints, drawings)
The Botolph Group, Boston, Mass. (April-masonite, prints, mono-types, drawings)
University of Tampa, LaMonte Gallery, Tampa, Florida (mixed media)
Ogilvie and Mather, New York (graphics, printed matter, posters)
Harvard Divinity School, Cambridge, Mass. (religious art-drawings)
Mint Museum, Charlotte, N.C. (mixed media)
University of Southern Illinois, Edwardsville, Ill. (mixed media)
Stetson University, DeLand, Florida (banners)
Florida Student Union, University of Florida, Gainesville, Florida (banner)
1968 — Art Directors' Club, New York (graphics, book covers, music album covers, posters)
Art Directors'Club, Boston, Medal Graphic(April-graphics, book covers, music album covers, posters)
Centre State, Baltimore, Maryland (mixed media)
Harvey School, Hastings, New York (drawings, paintings, prints)
World Center for Liturgical Studies, Boca Raton, Florida (banners)
Galerie Dresdnere, Toronto, Canada (lithographs, banners, paintings)
Pandemonium, Pittsburgh, Pa. (wood paintings, prints, drawings)
National Council of Churches, New York (summer-banner and drawings)
Presbytery of Hudson River, White Plains, New York (mixed media)
St. Mary-of-the-Woods College, St. Mary-of-the-Woods, Indiana (banners)
Colonial Williamsburg, Williamsburg, Virginia (Oct.-Jan.-banners)
Alabama State College, Montgomery, Alabama (November-banners)
Waddington Galleries, Montreal, Canada (November-watercolors)
Rockhurst College, Kansas City, Mo. (December-banners)
Merida Gallery, Louisville, Ky. (December-graphics, prints, lithographs)
1969 — Loch Haven Art Museum, Orlando, Florida (February-banners)
Davidson College, Davidson, N.C. (March-mixed media)
Smithsonian Institution, Washington, D.C. (Travelling Exhibit of Wooden Figures - painted wooden figures)
Jacksonville Art Museum, Jacksonville, Florida (March - mixed media)
Sanford Museum and Planetarium, Cherokee, Iowa (April-banners, drawings)
Marygrove College, Detroit, Michigan (May-banners)
1969 — Ripon College, Ripon, Wisconsin (banners)
South Bend Art Center, South Bend, Indiana (drawings, paintings)
Christ the King, Kalamazoo, Michigan (banners)
Galerie Moos, Inc., Montreal (oil crayons, watercolors)
Port Washington Public Library, Long Island, New York (banners)
Stuart Country Day School, Princeton, N.J. (drawings and banners)

ONE-MAN EXHIBITION (cont'd)

1970 — Public Library, Skokie, Illinois
(drawings and paintings)
Miami Museum of Modern Art, Miami, Florida
(drawings and banners)
Municipal Art Galleries, Waterloo, Iowa (mixed media)
University of Nothern Iowa , Cedar Falls, Iowa
(mixed media)
Galerie Dresdnere, Toronto, Canada
(banners, lithographs, wood paintings)
Scarborough Art Galleries, Inc., Ossining, N.Y.
(banners, paintings, drawings, ink, pastels, reliefs and woodcuts)
Trend House Gallery, Tampa, Florida (drawings and banners)
The Ice House, San Francisco, California (banners)
Calvin College, Grand Rapids, Michigan (banners)
Episcopal Church Center, Chicago, Illinois (banners)
Quincy College, Quincy, Illinois (mixed media)
Tampa Bay Art Center, Tampa, Florida (mixed media)
Galerie Moos, Inc., Montreal (sketch books, magic marker drawings)
Arts & Conference Centre, Pueblo, California (banners and paintings)

1971 — Boston Architectural Center, Boston, Massachusetts (September - banners)
Colony Square Gallery, Atlanta, Georgia (mixed media)

1972 — Museum of Art, Fort Lauderdale, Florida (mixed media)
Sangri de Cristo, Pueblo, Colorado (drawings and paintings)
Loch Haven Art Centre, Orlando, Florida (mixed media)
Midtown Galleries, Atlanta, Georgia (banners and drawings)

1973 — Museum of Contemporary Craft, New York (crafts, banners)
Circle Gallery, Chicago (lithographs and oil crayons, drawings)
Galerie Dresdnere, Toronto (April-May - banners, hangings, craypas and lithographs)
Galerie Moos, Inc., Montreal (banners)
Aronson Galleries, Atlanta, Georgia (January - mixed media)

1974 — Arras Gallery Exhibit, New York (banners)
Galerie Dresdnere Exhibit, Toronto (banners)
Harmon Gallery Exhibit, Naples, Florida (banners)
Galerie Moos, Inc., Montreal (silk screen, etchings)

1975 — Pace College Exhibit, New York (mixed media)
Smithsonian "Renwick Gallery", Washington, D.C. (exhibition of banners)
Galerie Dresdnere, Toronto (paintings, wood paintings and drawings)

1976 — Arras Gallery, New York (drawings, paintings, watercolors)
Galerie Dresdnere, Toronto (mixed media)
Shayne Gallery, Montreal (wood paintings)
Holt Rentrew, Montreal, Toronto and Vancouver (Travelling Show - banners and etchings)

1977 — Galerie Dresdnere, Toronto (November - painted tapestries)
Hokin Gallery, Chicago (March - banners)
Springfield Art Association, Springfield, Ill. (June-July - prints)
Shayne Gallery, Montreal (November - craypas)

1977-78 — Institute of Contemporary Art, Boston, Mass., (December 19, 1977 - January 19, 1978 - banners, painted tapestry, cloth construction)
Chicago Public Library Cultural Center, Artist's 25-year Retrospective (December 1977 - January 1978)

1978 — Shayne Gallery, Montreal, (March-new craypas)
Thorpe Intermedia Gallery, Sparkhill, N.Y.
Miti Bidner Gallery, Ottawa, Ont. (November)

1979 — Art Space Gallery, Ottawa, (October)
Valparaiso University, Valparaiso, Ind.
Galerie Dresdnere, Toronto, Ont. (September) (banners, paintings and graphics)

MAGAZINE ARTICLES AND PUBLICATIONS:

Art in America, 1958
Today, December, 1958
Four Quarterly, 1958
Impressions, 1959
Apostolic Perspectives, September, 1959
Everyday Art, 1959
Gebrauchgraphic, August, 1960
Ave Maria (various issues)
School Art Magazine
Art News, January, September, October, 1964
House Beautiful, December, 1964
Graphis, November, 1964
Communications Arts, May-June, 1964 (cover)
March-April, 1964 (cover and 26-page story)
Montreal Star, May, 1965
House and Garden, September, 1965
Arts Magazine, December, 1965
Canadian Art, November-December, 1965 (cover and 3-page story)
Industrial Design, July-August, 1966
Jubilee, 1965, 1966, 1967
American Artist, September, 1966
Los Angeles Magazine (cover), December, 1966
Who's Who in American Art, 1966
Chicago Tribune Magazine, December 11, 1966 (cover and feature on Vatican Pavilion banners now in Rockefeller Chapel at University of Chicago)
Christian-Art Magazine, January, 1967
Tampa Tribune, March, 1967
Montreal, March, 1967
Canadian Interiors, 1967
The Art Gallery Magazine, June, 1967
Take One (cover design) Montreal, July, 1967
Star Weekly Magazine, Toronto, July, 1967
Dimensions in Living, November, 1967
Clipper, January, 1967
Everyday Art Magazine, Spring, 1968 (entire issue)
Our Sunday Visitor, April 14, 1968
Princeton Packet, September 26, 1968
New York Times, October, 1968
Kansas City Star, December, 1968
Who's Who in America, 1969
Higher Education, cover and illustrations, November-December, 1969
Cue (New York), January 31, 1970
American Artist, cover and article, February, 1970
Time, cover, February 9, 1970
Lithopinion, covers and drawings, volume 17, Spring, 1970
Christian Art, March-April, 1970
Publisher's Weekly, October, 1970
Artist Workshop Magazine, Toronto, 1971
Patent Trader, Mt. Kisco, New York, March, 1971
Ledger-Star, Norfolk, Virginia, June, 1971
Print Magazine, Summer, 1971
New York Times, September, 1971
Atlanta-Journal-Constitution, December, 1971
Life, Christmas issue, 1972
Canadian Hotel Magazine, May, 1973
Toronto Life Magazine, July, 1973
Forces Magazine cover No. 29 (Canada), 1974
Mead Paper Corporation brochure cover, 1975
Acquire Magazine story, 1975 (October)
Interior Design Magazine, February, 1976
Forces Magazine (cover) No. 36, 1976
Communications Arts Magazine, Summer, 1977
Craftsman, December, 1977 (story)
Quest Magazine, August 1978 (illustrations)
Interior Magazine, January 1978
Print Magazine, August, 1978 (cover & story)
Dynamic Year, December 1978 (story)
Touring Directory, 1977-78, Canadian Government Publications, (cover)

BOOKS AUTHORED:

1960 — "The History of the Cross", MacMillan

1962 — "American Life, Dream and Reality", University of Chicago Press. Phoenix Book, cover illustrations by Norman Laliberte

1966 — "Banners and Hangings", Van Nostrand Reinhold Company (with Sterling McIlleny)
"Wooden Images", Van Nostrand Reinhold Company (with Maureen Jones)
"Painting with Crayons", Van Nostrand Reinhold Company (with Alex Mogelon)

1967 — "Art: of Wonder & a World", Art Education, Inc., design consultant

1968 — "Silhouettes, Shadows and Cutouts", Van Nostrand Reinhold Company (with Alex Mogelon)
"The Brayer Technique", Van Nostrand Reinhold Company
"The Sheldon Series - Grades 1-8", Allyn & Bacon Publishers, illustrations by Norman Laliberte

1969 — "100 and One Ways to Have Fun With an Alligator", Art Education, Inc.
"Drawing with Pencils", Van Nostrand Reinhold Company (with Alex Mogelon)
"Art: Tempo of Today", Art Education, Inc., design consultant.
"Art & the Future", Art Education, Inc., designed by Norman Laliberte

1970 — "The Book of Posters", Art Education, Inc. (with Alex Mogelon)
"The Rainbow Box (Poster, Cube and Four Books)", Harper & Row Publishers Inc., designed by Norman Laliberte
"Sir Gawain and the Green Knight", A Mentor Book, The New American Library Inc., cover illustration by Norman Laliberte
"Drawing with Ink", Van Nostrand Reinhold Company (with Alex Mogelon)

1971 — "The Art of Stencil", Van Nostrand Reinhold Company (with Alex Mogelon)
"Twentieth Century Woodcuts", Van Nostrand Reinhold Company (with Alex Mogelon)
"Collage, Montage, Assemblage", Van Nostrand Reinhold Company (with Alex Mogelon)
"The Art of Monoprint", Van Nostrand Reinhold Company (with Alex Mogelon)
"The Smile at the Foot of the Ladder", Hallmark (text by Henry Miller), illustrations by Norman Laliberte

1972 — "Pathways to Happiness", Hallmark, cover and illustrations by Norman Laliberte
"My Sweet Lord", Hallmark, cover and inside illustrations by Norman Laliberte
"Music Series, 2 to 6", Holt, Reinhart & Winston, illustrations by Norman Laliberte

1973 — "The Ways of the World, Satire and Irony", Harcourt Brace Jovanovich, Inc., inside illustrations by Norman Laliberte
"The Castle of Ladies", Thos. Y. Crowell, illustrated by Norman Laliberte
"Pastels, Charcoal and Chalk Drawing", Van Nostrand Reinhold Company (with Alex Mogelon)
"Masks, Face Coverings and Headgear", Van Nostrand Reinhold Company (with Alex Mogelon)
"Scripts 2" ("Cyrano de Bergerac" and "Antigone"), Houghton Mifflin Co., illustrations by Norman Laliberte

1974 — "Art in Boxes", Van Nostrand Reinhold Company (with Alex Mogelon)

1976 — "The Reinhold Book of Art Ideas", Van Nostrand Reinhold Company (with Alex Mogelon)

1979 — "Design" Art Education, N.Y.
"Art: Tempo of Today" Art Education, N.Y. revised
"Art: of Wonder and a World", Art Education, N.Y. revised
also, various posters & brochures for Art Education

PUBLIC COLLECTIONS & COMMISSIONS:

The University of Chicago, Rockefeller Memorial Chapel, Mary MacDonald Ludgin Memorial Collection (88 Vatican Pavilion liturgical banners designed and executed for the New York World's Fair, 1964).
Northwestern Memorial Hospital, Wesley Pavilion, Chicago (6-banner series, "Medicinal Herbs", 1972; banner, "The Story of Medicine", 1975).
Standard Oil Company (Indiana), Arts Collection, Chicago (Bicentennial banner and silk screen prints, 1975; 56-banner series for lobbies, "Celebration of the Seasons", 1977).
Container Corporation of America, Chicago ("Great Ideas" series, banner, 1966).
North Riverside Shopping Center, Chicago (28 banners, Slavic theme, 1975).
The Spaeth Foundation, New York City (woodcuts, "History of the Cross", 1965).
C B S Building, New York City (wood paintings, 1966).
Cotton Inc., New York City (lobby banner, 1972).
Hedley Donavan, Editor in Chief, Time-Life Magazine, New York (2 banners, 1975).
James Polshek, Dean, Columbia University, School of Architecture, New York (2 banners, 1977).
RCA (Port of Authority Building), New York (2 banners, 1972).
New York State Bar Association, Albany, New York (9-banner series, 1973).
Whitney North Seymour, Jr., Attorney-General, New York State, Albany, New York (banner and drawing, 1974).
American Airlines (banners for 747s, 1972).
Albright-Knox Art Gallery, Buffalo, New York
St. James Catholic Church, Jamesburg, N. J. (Banner, 1967).
*The Stockade Association, Schenectady
*The Buffalo Festival of the Arts Today, Buffalo, N. Y.
*The City of Binghamton, N. Y.
*St. James Community Center, New York
*The Syracuse Savings Bank, Syracuse, N. Y.
*The New York State Racing Association
*Citizens Advisory Committee for the Town and Village of Cazenovia, N. Y.
*New York Shakespeare Festival, New York
*Corning Community College
*The Judson Memorial Church, New York
*Mrs. Albert D. Lasker
*(New York State Banner Award, Laliberte Banners Commissioned by the New York State Council on the Arts, 1966).
The Immaculate Heart College, Los Angeles, California (1966).
Film Fair, Hollywood, California (lobby banners, 1962).
The National Catholic Reporter, Kansas City, Mo. (illustrations and banners, 1968).
First and Merchants Bank Center, Richmond, Virginia (5 banners, historical Virginia, 1974).
Librand & Montgomery, Boston (4 lobby banners, 1972).
Aids for Lutheran, Appleton, Wisconsin (14 banners for lobbies, 1977).
Essex County Community College, Newark, N. J. (20 banners for lobbies, 1976).
Temple Sinai, Tenafly, New Jersey (wood mural, 1968).
Governor Winthrop Rockefeller, Rockwin Foundation, University of Arkansas, design consultant (14 banners, 1968).
Ashland Oil Co., Ashland, Ky. (large lobby banner, 1976).
Ashland Oil Co., Columbus, Ohio (12 lobby banners, 1976).
Blankman Investments, Miami Beach, Florida (10 banners, 1976).
Mayor Drapeau, Montreal, Quebec (1965).
Canadian Pacific, Montreal, Quebec (Hotel Champlain lobby banner, 1971).
Gregor House, Montreal, Quebec (4 lobby banners, 1972).
Ernest Avrith, Yellow Shoes Corporation, Montreal, Quebec (2 lobby banners, 1976).
National Jewish Congress, Montreal, Quebec (12 lobby banners, "Twelve Tribes of Israel", 1973).
Montreal Museum of Fine Arts, Montreal, Quebec (craypas painting, Permanent Collection, 1976).
Le Boulanger Restaurants, Toronto (10 banners, 1972).
Inn of the Provinces, Ottawa (20 banners for lobbies, 1973-74).
Estate of Arthur Heaney Memorial, Ottawa (banners, 1974).

Public Collections and Commissions (cont'd)

Quebec Hilton (2 banners re: the history of Quebec and Canada, 1974).
Federal Building Complex, Hull, Quebec (2 banners for lobbies, 1977).
National Art Centre, ottawa, Canada (4 banners, 1968).
Ashland Headquarters, Olympic Tower, N. Y. C. (paintings & banners).
Citycorp Headquarters, N. Y. C. (5 banners for lobbies; 50 paintings on the theme of coins and monies for the foreign exchange).
Sydney Farber Cancer Research Hospital, Boston, Mass. (banner for their lobby).
Institute of Contemporary Art, (fabric construction, Christmas, 1978).
First Night, Boston, Mass, organized and designed New Year procession.
Aid for Lutheran New Headquarters, Appleton, Wis. (12 banners).
Bromont Festival, Quebec, (design logo, posters & flags, Summer '78 and Summer '79).
Air Canada, Montreal, (banners for the lobby).
Mirabelle Airport, Montreal, (3 banners for lobbies).
Art Bank, (summer 1979, banner for the Collection).
McGill University Chapel, (banners, winter, 1979).
Channel 13, New York City, (drawings for subway, 1979).
Chicago Lyric Opera, 25th Anniversary, (September 1979, 6 large banners: also, 1,000 silkscreened flags to be hung throughout the city of Chicago to celebrate the event.

OTHER ACHIEVEMENTS:

1963-64 — Laliberte was design colsultant for the Vatican Pavillion, New York World's Fair.
1964 — Poster: An Exhibit of Recent Dolls by Del Sol Productions at Scarabaeus.
1964-66 — Laliberte was visual design consultant for "Sol Productions". He designed five different exhibitions, including "Fun and Games" for the Pepsi-Cola Building in New York City, March, 1965.
1967 — Commission, American Institute of Architects - Design: 600 banners (3 x 3 feet) for "The Next Fifty Years" Exhibition in Washington, D. C.
Intermedia: Film and Slides, Newton College, Newton, Mass., March, 1967.
Commission, "The Fantasticks", Harvey Schmidt, theater banner, New York.
Drawings for IBM film "What's in a Name?"
Christmas - UNICEF poster.
1968 — Walden Productions, two films on banner making.
Macy's, New York, designer Christmas tree.
United Methodist Church, New York, Board of Missions, slide strip of banners.
1969 — Poster designs, "Art: Tempo of Today", Art Education, Inc.
Poster designs, "Art & the Future", Art Education, Inc.
1970 — Danforth Foundation Associates, Southeastern Conference, workshop.
United Methodist Church, Board of Missions, banner mobile, mural, film strips and posters for yearly assembly.
New York State Humanities and Arts Program - mural for State Education Department.
Fortune Society, bird in flight symbol.
Poster designs, "The Book of Posters", Art Education, Inc.
1971 — National Film Board of Canada, "Banner Film", 10 minute film featuring the works of Norman Laliberte.
1972 — "Vibrations" poster for ESSO.
Banner workshop, Brookfield Craft Center, Brookfield, Conn.
Portfolio of 8 lithographs, "The Circus", executed by Mourlot, in Paris, France, for the Circle Gallery.
1973 — Banner workshop, Northern Illinois University, Chicago
A.I.G.A. Award for Design for Rainbow Books.
Illustrators Society Award for music album cover.
"Tarot": lithograph edition, Shorewood Press, New York.
Monterey Institute of Foreign Studies banner.
1975 — Place Desjardins, commission for 200 silk screen prints, Montreal.
1976 — Etchings; series of 6, Le Guilde Graphique, Montreal.
Banner workshop, Visual Arts Centre, Montreal.
1977 — National Ballet of Canada, Toronto, Canada (25th anniversary commemorative print, "Firebird", 8-color lithograph, executed by Ettenger Atelier, New York).
Spring banner workshop, Cooper-Hewitt Museum, New York.
Banner workshop, Mohawk College, Hamilton, Ontario, November.
Banner workshop, Ontario College of Art, Toronto, Ontario, November.
Monterey Institute of Foreign Studies, Monterey, California.
1978 — First Art Symposium, Houston, Texas, keynote speaker & workshop.
Artist in Residence & Exhibition, Congress of the Laity, Los Angeles, California.
1979 — Nantucket School of Design, Nantucket, Mass., workshop and lecture.

7711 21

BOSTON PUBLIC LIBRARY
3 9999 06315 122 7